TOSHIBA

FILE NO. 020-200110

SERVICE MANUAL

COLOR TELEVISION

N1F Chassis

36AF61

(TAC0120)

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CHAPTER 1 GENERAL ADJUSTMENTS

SAFETY INSTRUCTIONS

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" INSTRUCTIONS BELOW.

X-RAY RADIATION PRECAUTION

1. Excessive high voltage can produce potentially hazardous X-RAY RADIATION. To avoid such hazards, the high voltage must not be above the specified limit. The nominal value of the high voltage of this receiver is (A) kV at zero beam current (minimum brightness) under a 120V AC power source. The high voltage must not, under any circumstances, exceed (B) kV.

   Refer to table-1 for high voltage (A), (B).
   (See SETTING & ADJUSTING DATA on page 17)

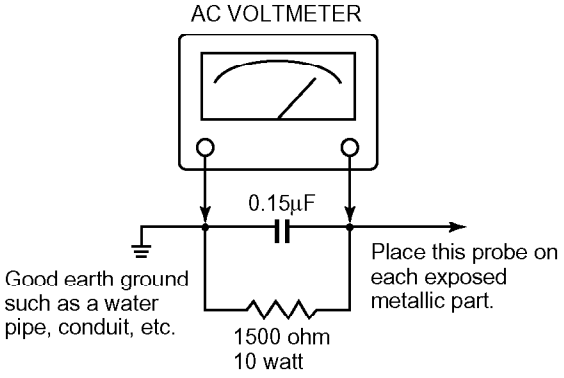
   Each time a receiver requires servicing, the high voltage should be checked following the HIGH VOLTAGE CHECK procedure in this manual. It is recommended that the reading of the high voltage be recorded as a part of the service record. It is important to use an accurate and reliable high voltage meter.
2. This receiver is equipped with a Fail Safe (FS) circuit which prevents the receiver from producing an excessively high voltage even if the B+ voltage increases abnormally. Each time the receiver is serviced, the FS circuit must be checked to determine that the circuit is properly functioning, following the FS CIRCUIT CHECK procedure in this manual.
3. The only source of X-RAY RADIATION in this TV receiver is the picture tube. For continued X-RAY RADIATION protection, the replacement tube must be exactly the same type tube as specified in the parts list.
4. Some part in this receiver have special safety-related characteristics for X-RAY RADIATION protection. For continued safety, parts replacement should be undertaken only after referring to the PRODUCT SAFETY NOTICE below.

SAFETY PRECAUTION

WARNING : Service should not be attempted by anyone unfamiliar with the necessary precautions on this receiver. The following are the necessary precautions to be observed before servicing this chassis.

1. An isolation Transformer should be connected in the power line between the receiver and the AC line before any service is performed on the receiver.
2. Always discharge the picture tube anode to the CRT conductive coating before handling the picture tube. The picture tube is highly evacuated and if broken, glass fragments will be violently expelled. Use shatter proof goggles and keep picture tube away from the unprotected body while handling.
3. When replacing a chassis in the cabinet, always be certain that all the protective devices are put back in place, such as; non-metallic control knobs, insulating covers, shields, isolation resistor-capacitor network etc.
4. Before returning the set to the customer, always perform an AC leakage current check on the exposed metallic parts of the cabinet, such as antennas, terminals, screwheads, metal overlays, control shafts etc. to be sure the set is safe to operate without danger of electrical shock. Plug the AC line cord directly into a 120V AC outlet (do not use a line isolation transformer during this check). Use an AC voltmeter having 5000 ohms per volt or more sensitivity in the following manner:

   Connect a 1500 ohm 10 watt resistor, paralleled by a 0.15 µF, AC type capacitor, between a known good earth ground (water pipe, conduit, etc.) and the exposed metallic parts, one at a time. Measure the AC voltage across the combination of 1500 ohm resistor and 0.15 µF capacitor. Reverse the AC plug at the AC outlet and repeat AC voltage measurements for each exposed metallic part. Voltage measured must not exceed 0.3 volts rms. This corresponds to 0.2 milliamp. AC. Any value exceeding this limit constitutes a potential shock hazard and must be corrected immediately.



PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in this chassis have special safety-related characteristics. These characteristics are often passed unnoticed by a visual inspection and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this manual and its supplements; electrical components having such features are identified by the international hazard symbols on the schematic diagram and the parts list.
Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts which do not have the same safety characteristics as specified in the parts list may create shock, fire, X-ray radiation or other hazards.

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" ON PAGE 3 OF THIS MANUAL.

SET-UP ADJUSTMENT (FOR 13", 14", 19", 20")

■ The following adjustments should be made when a complete realignment is required or a new picture tube is installed. Perform the adjustments in order as follows :

1. Color Purity
2. Convergence
3. White Balance

Note: The PURITY/CONVERGENCE MAGNET assembly and rubber wedges need mechanical positioning. Refer to figure 1.
Mounting position of the purity magnet assembly should fit to same position as old one because slightly difference to the position depen on a kind of tube.

* There are no adjustment of purity and convergence in some picture tube (Unified with purity magnet)

COLOR PURITY ADJUSTMENT

NOTE : Before attempting any purity adjustments, the receiver should be operated for at least fifteen minutes.

1. Demagnetize the picture tube and cabinet using a degaussing coil.
2. Set the brightness and contrast to maximum.
3. Use a green raster from among the built-in test signals.
4. Loosen the clamp screw holding the yoke and slide the yoke backward or forward to provide vertical green belt (zone) in the picture screen.
5. Remove the Rubber Wedges.
6. Rotate and spread the tabs of the purity magnet (See figure 2.) around the neck of the picture tube until the green belt is in the center of the screen. At the same time, enter the raster vertically.
7. Slowly move the yoke forward or backward until a uniform green screen is obtained. Tighten the clamp screw of the yoke temporarily.
8. Check the purity of the red and blue raster.

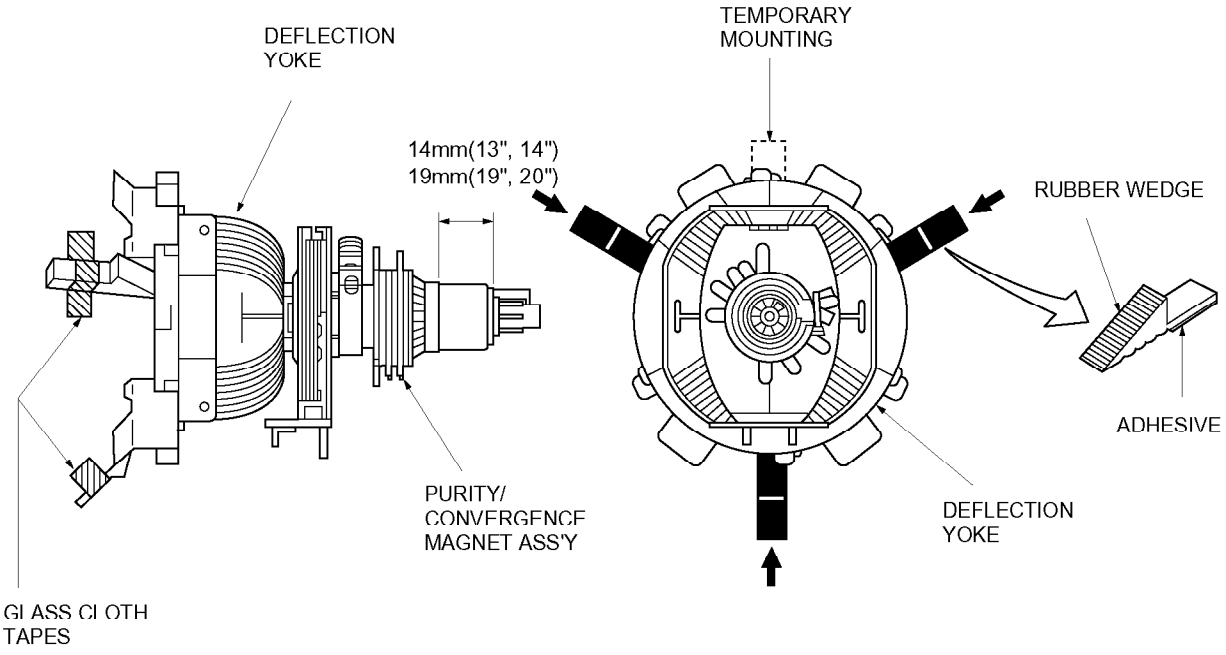


Figure 1.

CONVERGENCE ADJUSTMENTS

NOTE: Before attempting any convergence adjustments, the receiver should be operated for at least fifteen minutes.

■ CENTER CONVERGENCE ADJUSTMENT

1. Use the cross-dot pattern from among the built-in test signals.
2. Set the brightness and contrast for well defined pattern.
3. Adjust two tabs of the 4-Pole Magnets to change the angle between them (See figure 2.) and superimpose red and blue vertical lines in the center area of the picture screen.
4. Turn the both tabs at the same time keeping the angle constant to superimpose red and blue horizontal lines at the center of the screen.
5. Adjust two tabs of 6-Pole Magnets to superimpose red/blue line and green one. Adjusting the angle affects the vertical lines and rotating both magnets affects the horizontal lines.
6. Repeat adjustments 3, 4, 5 keeping in mind red, green and blue movement, because 4-Pole Magnets and 6-Pole Magnets have mutual interaction and make dot movement complex.

■ CIRCUMFERENCE CONVERGENCE ADJUSTMENT

1. Loosen the clamping screw of deflection yoke slightly to allow the yoke to tilt.
2. Temporarily put a wedge as shown in figure 1. (Do not remove cover paper on adhesive part of the wedge.)
3. Tilt front of the deflection yoke up or down to obtain better convergence in circumference. (See figure 3.) Push the mounted wedge into the space between picture tube and the yoke to fix the yoke temporarily.
4. Put other wedge into bottom space and remove the cover paper to stick.
5. Tilt front of the yoke right or left to obtain better convergence in circumference. (See figure 3.)
6. Keep the yoke position and put another wedge in either upper space. Remove cover paper and stick the wedge on picture tube to fix the yoke.
7. Detach the temporarily mounted wedge and put it in another upper space. Stick it on picture tube to fix the yoke.
8. After fixing three wedges, recheck overall convergence. Tighten the screw firmly to fix the yoke and check the yoke is firm.
9. Stick three adhesive tapes on wedges as shown in figure 1.

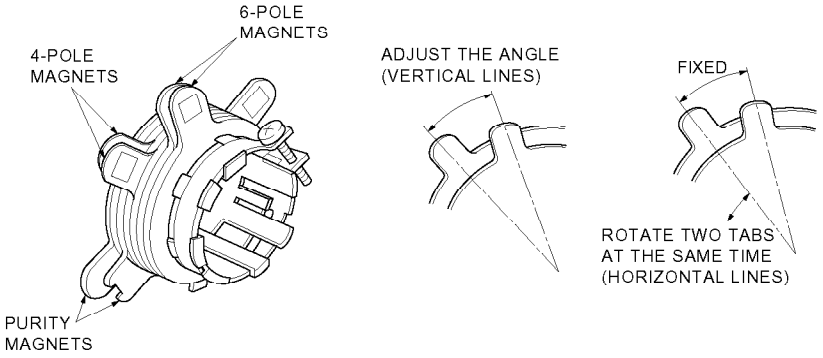
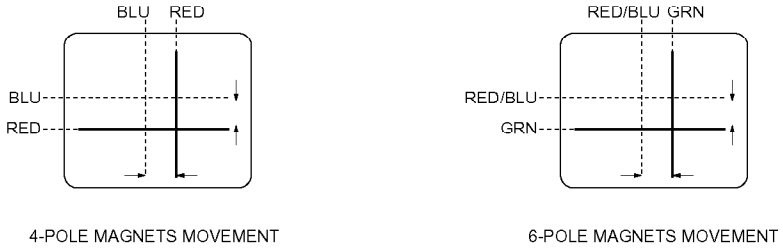


Figure 2.



Center Convergence by Convergence Magnets

Circumference Convergence by DEF Yoke

Figure 3. Dot Movement Pattern

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" ON PAGE 3 OF THIS MANUAL.

(FOR 35", 36")

■ The following adjustments should be made when a complete realignment is required or a new picture tube is installed. Perform the adjustments in order as follows :

1. Color Purity
2. Convergence
3. White Balance

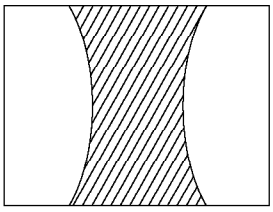
Note: The PURITY/CONVERGENCE MAGNET assembly and rubber wedges need mechanical positioning. Refer to figure 1.
Mounting position of the purity magnet assembly should fit to same position as old one because slightly difference to the position depen on a kind of tube.

* There are no adjustment of purity and convergence in some picture tube (Unified with purity magnet)

COLOR PURITY ADJUSTMENT

NOTE : Before attempting any purity adjustments, the receiver should be operated for at least fifteen minutes.

1. Evenly degauss the entire screen.
2. Set the CONTRAST and BRIGHTNESS Controls to the maximum.
3. Display built-in green raster using the TEST SIGNAL SELECTION function.
4. Loosen the clamp screw holding the deflection yoke (and remove the Rubber Wedges).
5. Slide the yoke forward or backward to provide vertical green belt (zone) in the picture screen.
6. Rotate and spread the tabs of the purity magnet (See figure 3.) around the neck of the picture tube until the green belt is in the center of the screen. At the same time, center the raster vertically by adjusting the magnet as shown below.



Green Belt

7. Move the yoke slowly forward or backward until a uniform green screen is obtained. Tighten the clamp screw of the yoke temporarily.
8. Check the purity of the red and blue raster.
9. Put four wedges into the space between the picture tube and the yoke to hold the yoke in the adjusted position. (See figure 2.)
   Do not tilt the yoke by excessive insertion of the wedge.
10. Remove cover paper of wedge and stick wedges on the tube to fix the yoke in the adjusted position.
    Fix the wedges with glass cloth tapes.

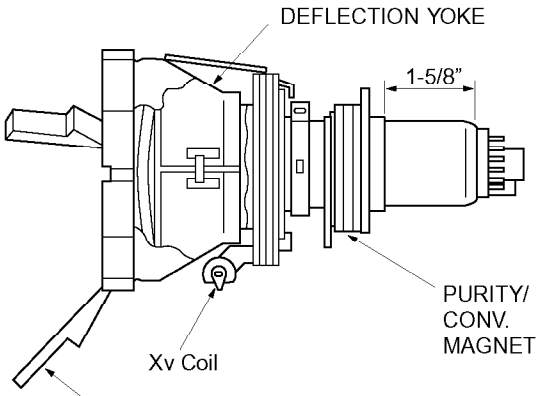


Figure 1.

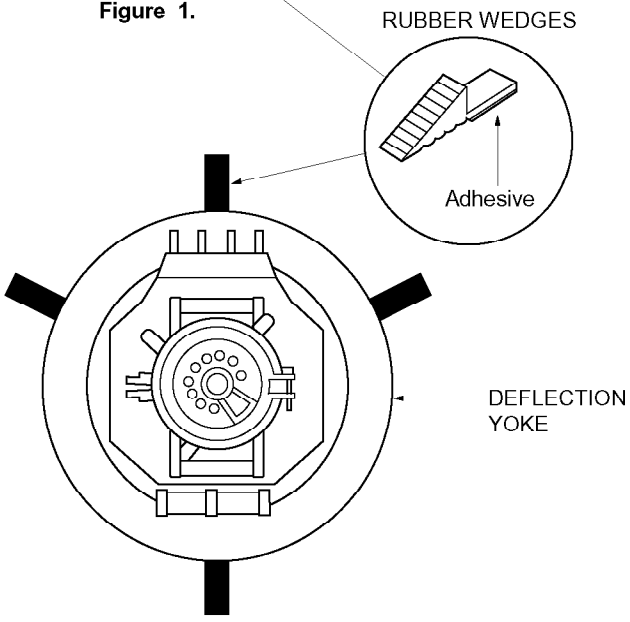


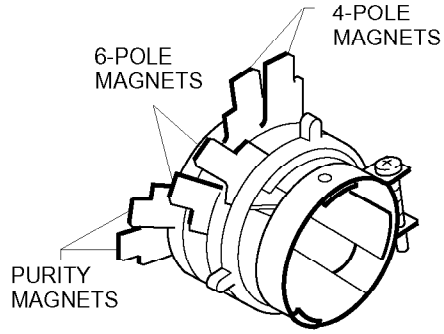
Figure 2.

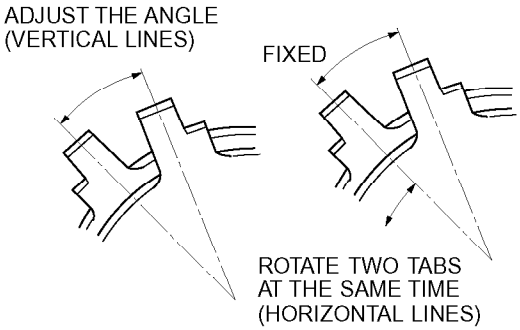
CONVERGENCE ADJUSTMENTS

NOTE: Before attempting any convergence adjustments, the receiver should be operated for at least fifteen minutes.

■ CENTER CONVERGENCE ADJUSTMENT

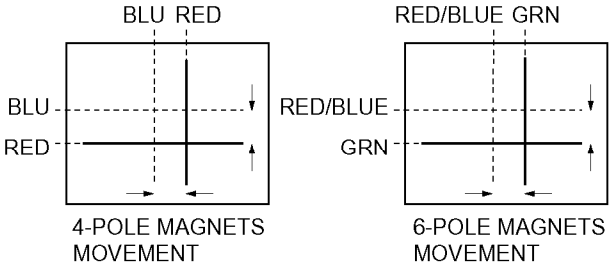
1. Display built-in cross-dot pattern using the TEST SIGNAL SELECTION function.
2. Adjust the BRIGHTNESS and CONTRAST Controls for well defined pattern.
3. Loosen the tightening ring and adjust two tabs of the 4-Pole Magnets to change the angle between them (See figure 3.) and superimpose red and blue vertical lines in the center area of the picture screen. (See figure 4.)
4. Turn the both tabs at the same time keeping the constant angle to superimpose red and blue horizontal lines at the centre of the screen. (See figure 4.)
5. Adjust two tabs of 6-Pole Magnets to superimpose red/blue line with green one. Adjusting the angle affects the vertical lines and rotating both magnets affects the horizontal lines.
6. Repeat adjustments 3, 4, 5 keeping in mind red, green and blue movement, because 4-Pole Magnets and 6-Pole magnets interact and make dot movement complex.
7. After completing the "CENTER CONVERGENCE ADJUSTMENT" tighten the tightening ring to fix the magnets.





ADJUSTMENT OF MAGNETS

Figure 3.

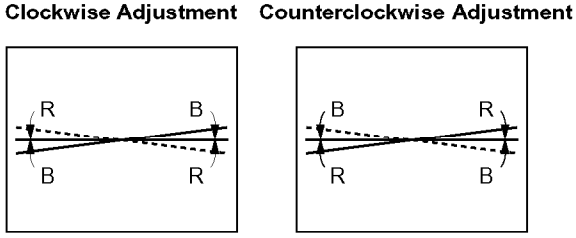


Center Convergence by Convergence Magnets

Figure 4.

■ Xv COIL ADJUSTMENT

Adjust the Xv coil (on the deflection yoke) to correct misconvergence at both sides on screen.
Use a hexagonal tip stick (plastic) to adjust the core of coil.

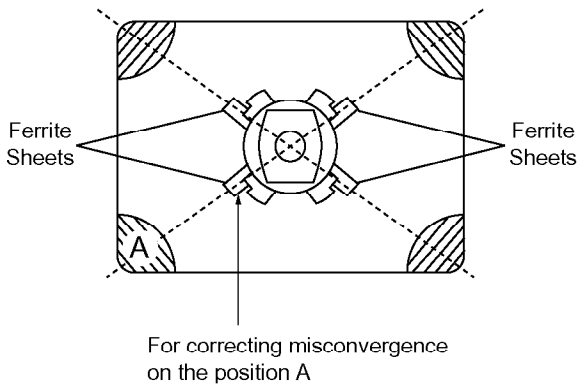


X_V Cross Pattern View

■ SCREEN-CORNER CONVERGENCE

When the misconvergence is still evident on corners even though the above adjustment is done, use the ferrite sheet (Part No. 23993622) to correct misconvergence.

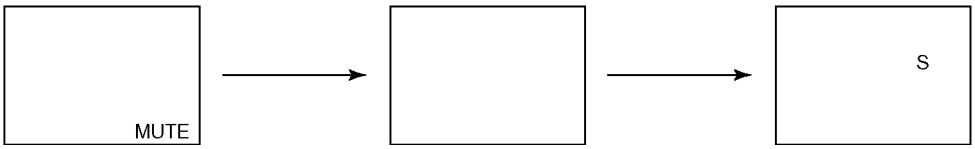
1. Put ferrite sheets into the space under the yoke. Decide such position that misconvergence becomes minimum, watching picture screen. (See figure below.)
2. Remove cover paper of ferrite sheet to stick it in the place on the tube. Put adhesive tapes on ferrite sheets to fix.



SERVICE MODE

1. ENTERING TO SERVICE MODE

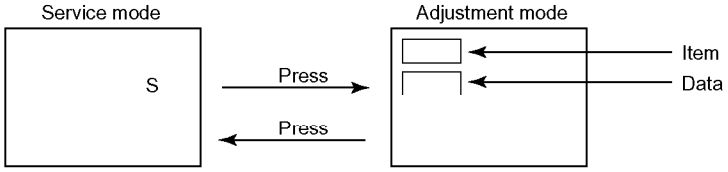
1) Press MUTE button once on Remote Control.
2) Press MUTE button again to keep pressing.
3) While pressing the MUTE button, press MENU button on TV set.



(Service mode display)

2. DISPLAYING THE ADJUSTMENT MENU

1) Press MENU button on TV.



3. KEY FUNCTION IN THE SERVICE MODE

The following key entry during display of adjustment menu provides special functions.

A single horizontal line ON/OFF:	TV (ANT)/VIDEO button (on TV)
Test signal selection :	TV (ANT)/VIDEO button (on Remote)
Selection of the adjustment items :	Channel ▲/▼ (on TV or Remote)
Change of the data value :	Volume ▲/▼ (on TV or Remote)
Adjustment menu mode ON/OFF :	MENU button (on TV)
Initialization of the memory (QA02) :	RECALL+Channel button on TV (▲)
Initialization of the self diagnostic data:	RECALL+Channel button on TV (▼)

“RCUT” selection :	1 button
“GCUT” selection :	2 button
“BCUT” selection :	3 button
“SCNT” selection :	4 button
“COLC” selection :	5 button
“TNTC” selection :	6 button
Self diagnostic display ON/OFF :	9 button

4. SELECTING THE ADJUSTING ITEMS

1) Every pressing of CHANNEL ▲ button in the service mode changes the adjustment items in the order of table-2. (▼ button for reverse order)

Refer to table-2 for preset data of adjustment mode.
(See SETTING & ADJUSTING DATA on page 17)

5. ADJUSTING THE DATA

1) Pressing of VOLUME ▲ or ▼ button will change the value of data in the range from 00H to FFH. The variable range depends on the adjusting item.

6. EXIT FROM SERVICE MODE

1) Pressing POWER button to turn off the TV once.

■ INITIALIZATION OF MEMORY DATA OF QA02

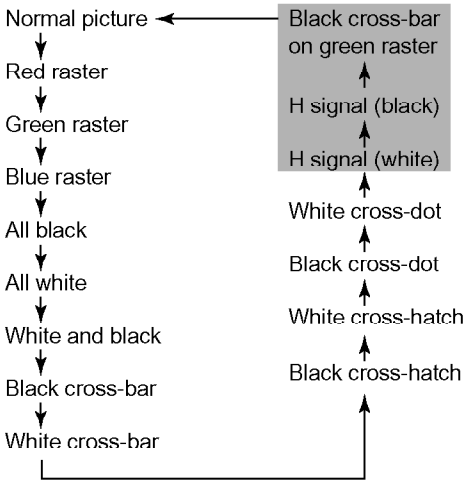
After replacing QA02, the following initialization is required.

1. Enter the service mode, then select any register item.
2. Press and hold the RECALL button on the Remote, then press the CHANNEL ▲ button on the TV. The initialization of QA02 has been complated.
3. Check the picture carefully. If necessary, adjust any adjustment item above.
   Perform "Programming Channel Memory" on the owner's manual.

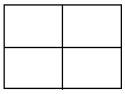
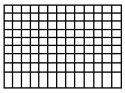
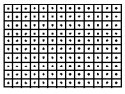
CAUTION: Never attempt to initialize the data unless QA02 has been replaced.

7. TEST SIGNAL SELECTION

1) Every pressing of TV/VIDEO button on the Remote Control in the Service mode, changes the built-in test patterns on screen in the following order.



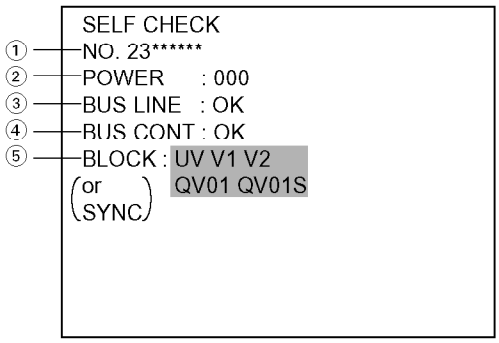
Note: If the video cable is connected to the VIDEO1 INPUT jack, the built-in pattern signals are not displayed.

Signals	Picture
• Red raster • Green raster • Blue raster • All Black • All White	
• Black & White	
• Black cross-bar • White cross-bar • Black cross-bar on green raster	
• Black cross-hatch • White cross-hatch	
• Black cross-dot • White cross-dot	
• H signal (white) • H signal (black)	

* The signals marked with ▒ are not usable to display in the Test signal for some model.

8. SELF DIAGNOSTIC FUNCTION

1) Press "9" button on Remote Control during display of adjustment menu in the service mode.
   The diagnosis will begin to check if interface among IC's are executed properly.
2) During diagnosis, the following displays are shown.



① Part number of microprocessor (QA01)
② Operation number of protection circuit (current limiter) . . . . "000" is normal.
③ BUS line check
- "OK" ..... Normal
- "NG" ..... SCL-GND or SAD-GND short circuit

④ BUS line ACK (acknowledge) check
- "OK" ..... Normal

Display of Location Number . . . . NG
(Display example)
"QA02 NG", "H001 NG", "Q501 NG" etc.

Note: The indication of failure place is only one place though failure places are plural. When repair of a failure place finishes, the next failure place is indicated. (The order of priority of indication is left side.)

⑤ Sync. signal check
- Green display ..... Normal
- Cyan display ..... No check
- Red display ..... NG

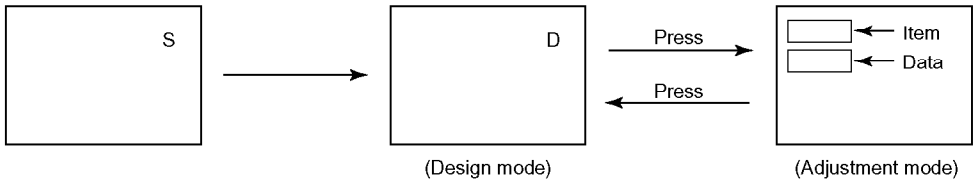
UV	TV mode
V1	VIDEO 1 mode
V2	VIDEO 2 mode

* The item marked with ▒ are not usable to display in the SELF DIAGNOSTIC FUNCTION for some model.

DESIGN MODE

1. ENTERING TO DESIGN MODE

1) Select the Service mode. 2) While pressing RECALL button on Remote and press MENU button on TV. 3) Press MENU button on TV.



When QA02 is initialized, items “OPT0”, “OPT1” and “OPT2” of DESIGN MODE are set to the data of the representative model of this chassis family.
Therefore, because ON-SCREEN specification remains in the state of the representative of model. This model is required to reset the data of items “OPT0”, “OPT1” and “OPT2” .

2. SELECTING THE ADJUSTING ITEMS

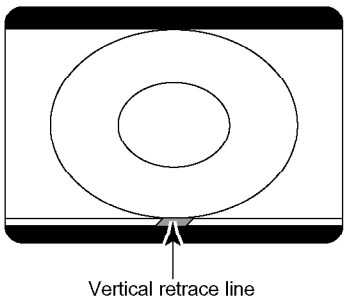
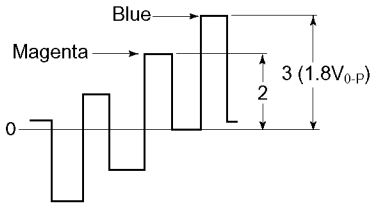
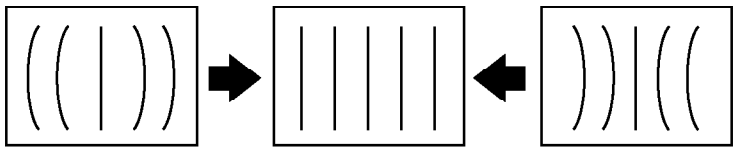
Every pressing of CHANNEL ▼ button in the design mode changes the adjustment items in the order of table-3.
(▲ button for reverse order)

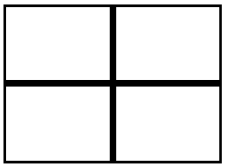
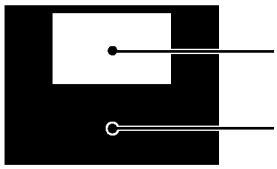
Refer to table-3 for data of design mode.
(See SETTING & ADJUSTING DATA on page 17)

3. ADJUSTING THE DATA

Pressing of VOLUME ▲ or ▼ button will change the value of data.

ELECTRICAL ADJUSTMENT

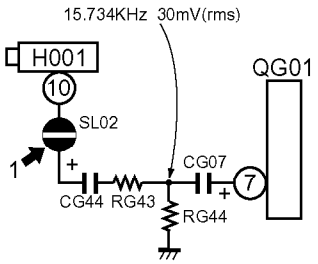
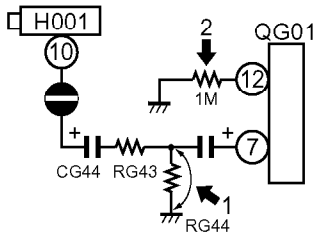
ITEM	ADJUSTMENT PROCEDURE
FOCUS VR ADJ	1. Enter the service mode, then select any register item. 2. Press the TV/VIDEO button on the Remote until the black cross-bar pattern appears on the screen. 3. Adjust the FOCUS control (on T461) for well defined scanning lines on the picture screen.
SUB-BRIGHTNESS (BRTC)	1. Constrict the picture height until the vertical retrace line appears adjusting the HEIGHT control on the MAIN board. 2. Adjust the CONTRAST to the minimum and BRIGHTNESS to the center. 3. Enter the service mode, then select "**BRTC**" register. 4. Adjust the data value so the belt of vertical retrace line just disappear. 5. Adjust the CONTRAST for the desired contrast. 6. Adjust the HEIGHT control. 
SUB-COLOR (COLC) SUB-TINT (TNTC)	1. Receive color-bar signal from color-bar generator. 2. Press the RESET button. 3. Connect oscilloscope to base of Q906 on CRT-D board. 4. Enter the service mode, then select "**COLC**". 5. Adjust the SUB-COLOR by pressing the VOLUME ▲ or ▼ button to achieve about $1V_{0\text{-}p}$ of blue bar. 6. Select "**TNTC**" register. 7. Adjust the data value to obtain the blue bar to magenta bar ratio of 3:2 as shown. 8. Select "**COLC**" register. 9. Adjust the data value to achieve $1.8V_{0\text{-}p}$ of blue bar on scope. 10. Check the picture with off-air signal. 
WIDTH (WID)	1. Call up the adjustment mode display, then select the item **WID**. 2. Press the VOLUME ▲ or ▼ button to get the picture so the left and right edges of raster begins to lack. 3. Press the VOLUME ▲ or ▼ button to advance the data by 7 steps. Note : Check the horizontal picture position is correct.
E-W PARABOLA (DPC)	1. Call up the adjustment mode display, then select the item **DPC**. 2. Press the TV/VIDEO button on Remote until the cross-hatch pattern appears on the screen. 3. Press the VOLUME ▲ or ▼ button to make vertical lines straight as shown below. 

<table>
<tr><th>ITEM</th><th>ADJUSTMENT PROCEDURE</th></tr>
<tr><td>HORIZONTAL POSITION
(HPOS)
VERTICAL POSITION
(VPOS)</td><td>1. Call up the adjustment mode display, then select the item HPOS or VPOS.
2. Press the TV/VIDEO button on Remote until the white cross-bar or black cross-bar pattern appears on the screen.
3. Adjust the HORIZONTAL and VERTICAL position alternately by pressing the VOLUME ▲ or ▼ button for proper picture position.
4. Check the picture with off-air signal.
  </td></tr>
<tr><td>HEIGHT
(HIT)</td><td>1. Call up the adjustment mode display, then select the item HIT.
2. Press the VOLUME ▲ or ▼ button to get the picture so the top of raster begins to lack.
3. Press the VOLUME ▲ button to advance the data by 9 steps.
Note : Check the vertical picture position is correct.</td></tr>
<tr><td>WHITE BALANCE
(RCUT)
(GCUT)
(BCUT)
(GDRV)
(BDRV)</td><td>1. Adjust the CONTRAST control to the center, and BRIGHTNESS control to the maximum.
2. Call up the adjustment mode display, and press the TV/VIDEO button on Remote until the white and black pattern appears on the screen.
3. Adjust the following item with the CHANNEL ▲/▼ and VOLUME ▲/▼ buttons.
RCUT ⟶ Data : 40H
GCUT ⟶ Data : 40H
BCUT ⟶ Data : 40H
GDRV ⟶ Data : 40H
BDRV ⟶ Data : 40H
4. Press the TV/VIDEO button on TV to display a single horizontal line on the screen.
5. Turn the SCREEN control (FBT) fully counterclockwise and gradually rotate clockwise until the first horizontal line appears slightly on the screen.
6. Press the TV/VIDEO button to display the normal picture.
7. Adjust the remaining two “?CUT” items (CHANNEL ▲/▼ → TV/VIDEO → VOLUME ▲/▼ in order) to obtain the slightly lighted horizontal line in the same levels of three (red, green, blue) colors. The line should be white if the adjustments are proper.
 
Bright area
Adjust "GDRV" or "BDRV" to be white.
Dark area
Fine adjust "RCUT", "GCUT" or "BCUT" to be black.</td></tr>
<tr><td>PIP SUB-BRIGHTNESS
(PBOF)</td><td rowspan="3">Adjust to match the PIP screen to the brightness, white balance and tint of the main picture.</td></tr>
<tr><td>PIP WHITE BALANCE
(PGOF, PROF)</td></tr>
<tr><td>PIP SUB-TINT
(PHUE)</td></tr>
</table>

MTS ADJUSTMENT (FOR N1F CHASSIS)

No.	ITEM	INPUT SIGNAL	ADJUSTMENT PROCEDURE
1	STEREO VCO (STVC)	• No signal	1. Display item **STVC**, and connect pin 9 of H002 to ground. 2. Connect frequency counter to pin 12 of H002. 3. Change data by Volume ▲/▼ buttons so that the reading of counter becomes value as close as 4fH (62.936kHz).
2	SAP VCO (SAVC)	• 78.670kHz 147mVrms → pin 9 of H002 • Monaural signal → ANT	1. Display item SAVC. 2. Change data by Volume ▲/▼ buttons so that the data becomes in the center of range for STA7=0 and STA8=1. SAVC 88H STA7:0 STA8:1
3	STEREO FILTER (STRF)	• 9.4kHz 600mVrm → pin 9 of H002 Monaural signal → ANT	1. Display item **STRF** on screen. 2. Change data by Volume ▲/▼ buttons so that the data becomes in the center of range for STA3=1. STRF 16H STA3:1
4	SAP FILTER (SAPF)	• 88kHz 110mVrms → pin 9 of H002 • Monaural signal → ANT	1. Display item **SAPF**. 2. Change data by Volume ▲/▼ buttons so that the data becomes in the center of range for STA4=1. SAPF 98H STA4:1
5	ATTENUATOR (ATT)	• 1kHz 30% mod. → ANT terminal	1. Connect rms meter to pin 12 of H002. 2. Display item **ATT** on screen. 3. Change data by Volume ▲/▼ buttons so that output at pin 12 of H002 becomes value as close as 130mVrms.
6	STEREO SEPARATION (WBAN)	• STEREO 300Hz R-channel only → ANT	1. Select "STEREO" mode from the MTS function in the Audio menu. 2. Display item **WBAN** on screen. 3. Connect oscilloscope to pin 14 of H002. 4. Change data by Volume ▲/▼ buttons so that 300Hz element on scope becomes minimum.
	(SPEC)	• STEREO 3kHz R-channel only → ANT	5. Display item **SPEC** on screen. 6. Change data by Volume ▲/▼ buttons so that 3kHz element on scope becomes minimum.

MTS ADJUSTMENT (FOR N0ES CHASSIS)

No.	ITEM	INPUT SIGNAL	ADJUSTMENT PROCEDURE
1	ATTENUATOR (ATT)	• 1kHz 30% mod. → ANT terminal	1. Connect rms meter to pin 34 of QG01. 2. Display item **ATT** on screen. 3. Change data by VOLUME ▲/▼ buttons so that the reading of meter becomes value as close as 137mVrms.
2	STEREO VCO (STVC)	• No signal	1. Short circuit RG44 with a jumper wire. 2. Display item **STVC** on screen. 3. Connect frequency counter to pin 34 of QG01. 4. Change data by VOLUME ▲/▼ buttons so that the reading of counter becomes value as close as 15.73kHz.
3	STEREO FILTER (STRF)	• 15.734kHz 30mV(rms) 	1. Unsolder the solder link SL02. 2. Display item **STRF** on screen. 3. Connect oscilloscope to pin 34 of QG01. 4. Change data by VOLUME ▲/▼ button to minimize AC output level on scope. 5. Resolder SL02.
4	STEREO SEPARATION (WBAN)	• STEREO 300Hz R-channel only → ANT	1. Display item **WBAN** on screen. 2. Connect oscilloscope to pin 35 of QG01. 3. Change data by VOLUME ▲/▼ buttons so that 300Hz element on scope becomes minimum.
	(SPEC)	• STEREO 3kHz R-channel only → ANT	4. Display item **SPEC** on screen. 5. Change data by Volume ▲/▼ buttons so that 3kHz element on scope becomes minimum.
5	SAP VCO (SAVC)	• No signal 	1. Shortcircuit RG44 with a short jumper. 2. Connect 1Mohm resistor between pin 12 of QG01 and ground. 3. Display item **SAVC** on screen. 4. Connect frequency counter to pin 34 of QG01. 5. Change data by VOLUME ▲/▼ buttons so that the reading of counter becomes value as close as 78.67kHz. 6. Remove the short jumper and 1M ohm resistor.

CIRCUIT CHECKS

HIGH VOLTAGE CHECK

CAUTION: There is no HIGH VOLTAGE ADJUSTMENT on this chassis. Checking should be done following the steps below.

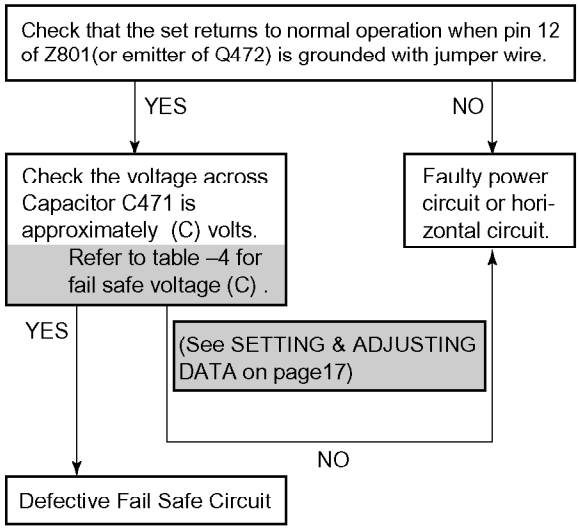
1. Connect an accurate high voltage meter to the second anode of the picture tube.
2. Turn on the receiver. Set the BRIGHTNESS and CONTRAST controls to minimum (zero beam current).
3. High voltage must be measured below (B) kV.
   Refer to table-1 for high voltage (B).
   (See SETTING & ADJUSTING DATA on page 17)
4. Vary the BRIGHTNESS control to both extremes to be sure the high voltage does not exceed the limit under any conditions.

FS CIRCUIT CHECK

The Fail Safe (FS) circuit check is indispensable for the final check in servicing. Checking should be done following the steps below.

1. Turn the receiver on and press the RESET button.
2. Temporarily short TP-(R) and TP-(X) with a jumper wire. Raster and sound will disappear.
3. The receiver must remain in this state even after removing the jumper wire. This is the evidence that the FS circuit is functioning properly.
4. To obtain a picture again, temporarily turn the receiver off and allow the FS circuit more than 5 seconds to reset. Then turn the power switch on to produce a normal picture.

Troubleshooting Guide for Fail Safe Circuit


Check that the set returns to normal operation when pin 12 of Z801(or emitter of Q472) is grounded with jumper wire.
YES
NO
Check the voltage across Capacitor C471 is approximately (C) volts.
Refer to table –4 for fail safe voltage (C) .
Faulty power circuit or horizontal circuit.
YES
(See SETTING & ADJUSTING DATA on page17)
NO
Defective Fail Safe Circuit

CHAPTER 2 SPECIFIC INFORMATIONS

SETTING & ADJUSTING DATA

【SAFETY INSTRUCTIONS】

		36"
HIGH VOLTAGE AT ZERO BEAM:	(A)	31.9kV
MAX HIGH VOLTAGE:	(B)	34.1kV

Table-1

【SERVICE MODE】

ADJUSTING ITEMS AND DATAS IN THE SERVICE MODE:

Item	Name of adjustment	Preset	36"
RCUT	R CUTOFF	40H	←
GCUT	G CUTOFF	40H	←
BCUT	B CUTOFF	40H	←
GDRV	G DRIVE	40H	←
BDRV	B DRIVE	40H	←
SCNT	SUB-CONTRAST	0AH	←
BRTC	SUB-BRIGHT	40H	←
COLC	SUB-COLOR	3AH	←
TNTC	SUB-TINT	44H	←
SAVC	SAP VCO	20H	←
ATT	ATTENUATOR	20H	←
STVC	STEREO VCO	20H	←
STRF	STEREO FILTER	20H	←
SPEC	SPECTRAL	20H	←
WBAN	STEREO SEPARATION	20H	←
HPOS	HORIZ. POSITION	16H	17H
VPOS	VERT. POSITION	03H	02H

Item	Name of adjustment	Preset	36"
HIT	HEIGHT	26H	2FH
LIN	V-LINEARITY	07H	06H
VSC	V-S CORRECTION	02H	05H
VPS	V-SHIFT	01H	←
VCP	V-COMPENSATION	03H	←
WID	PICTURE WIDTH	35H	27H
DPC	E-W PARABOLA (DPC)	17H	0CH
CNR	E-W CORNER	09H	02H
TRAP	TRAPEZIUM	08H	04H
HCP	H-COMPENSATION	00H	←
VFC	V-F CORRECTION	0FH	←
PCOL	PIP COLOR	0FH	←
PHUE	PIP TINT	11H	←
PGOF	PIP	36H	←
PROF	PIP	17H	←
PBOF	PIP	17H	←
RGBB	RGB BRIGHT	0BH	←

Table-2

【DESIGN MODE】

ADJUSTING ITEMS AND DATAS IN THE DESIGN MODE:

Item	Name of adjustment	Preset Data	Data	Remarks
OPT0	OPTION 0	20H	20H	
OPT1	OPTION 1	84H	04H	
OPT2	OPTION 2	01H	01H	

Table-3

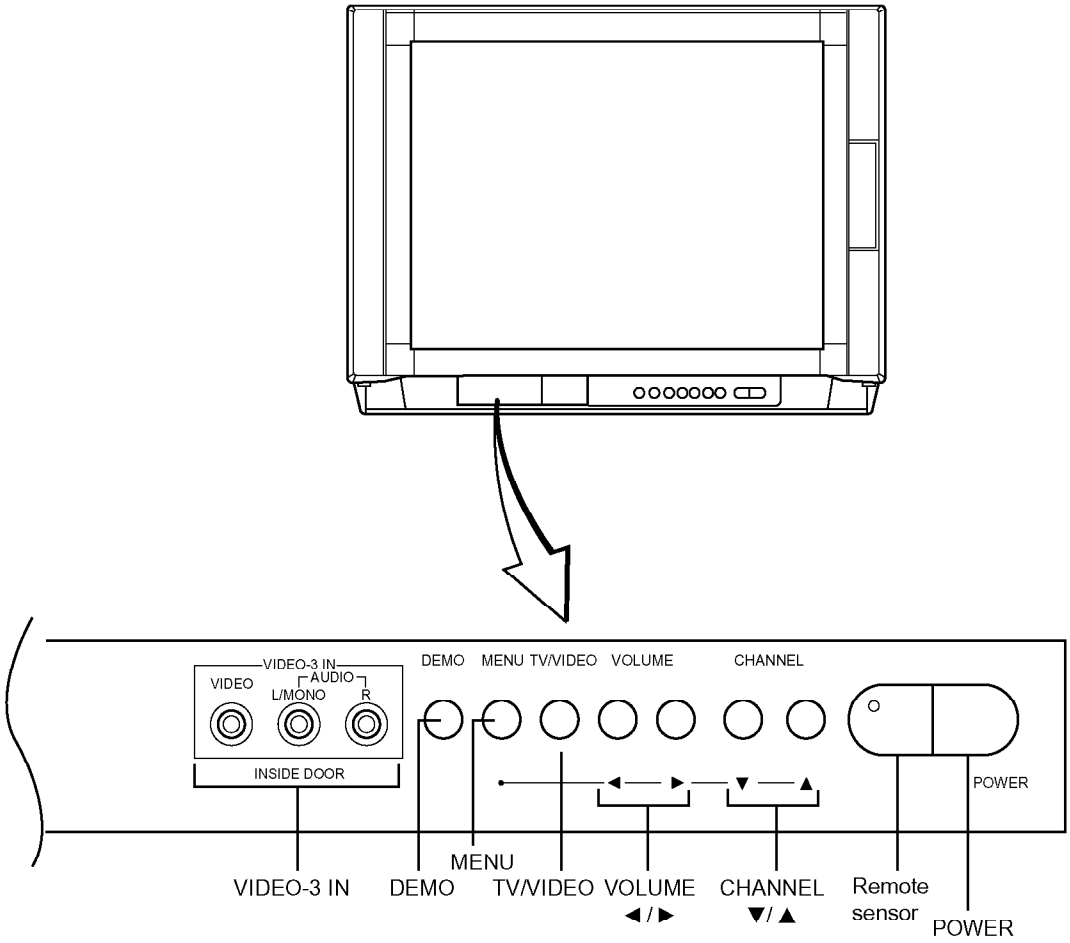
【CIRCUIT CHECKS】

		36"
FBT DETECTION VOLTAGE	(C)	22.32V

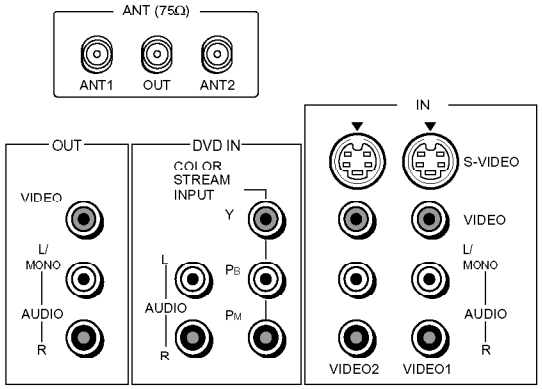
Table-4

LOCATION OF CONTROLS

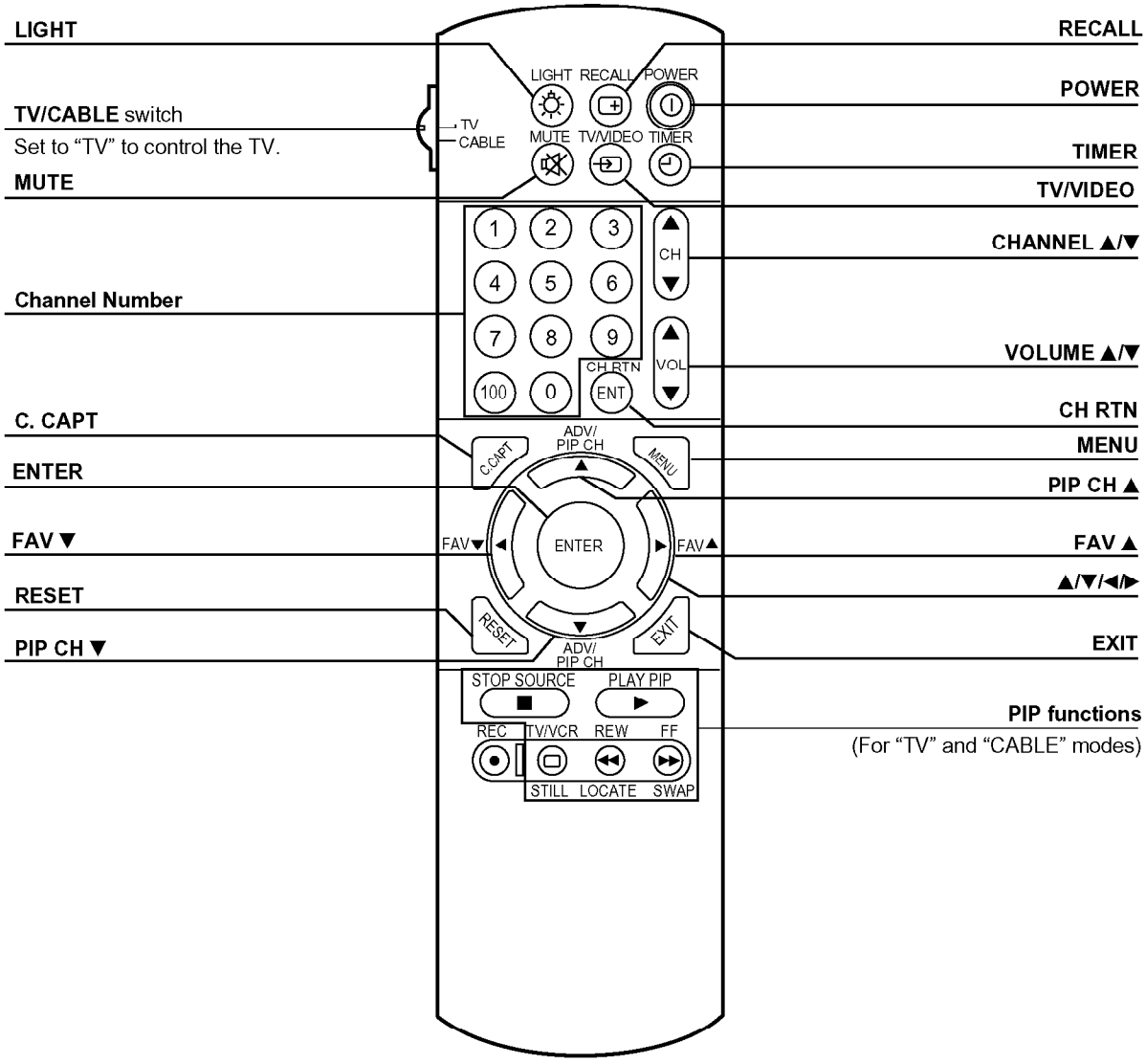
Front



Rear



Remote Control



PROGRAMMING CHANNEL MEMORY

The channel memory is the list of TV channel numbers your TV will stop on when you press the CHANNEL ▲ or ▼ button.
First, use the TV/CABLE and CH PROGRAM functions to preset all active channels in your area automatically.
If necessary, arrange the preset channels with the ADD/ERASE functions so that you can tune into only desired channels.
Note: If you utilize both ANT-1 and ANT-2 terminals for some model, perform programming channels for each input source.

TV/CABLE function

1 Press **MENU**, then press ► or ◄ until the SET UP menu appears.

2 Press ▼ (or ▲) until "TV/CABLE" is highlighted.

3 Press ► or ◄ to highlight either "TV" or "CABLE", whichever you use.

CH PROGRAM function

1 Select "CH PROGRAM" following steps 1 and 2 above.

2 Press ► or ◄ to start channel programming.
The TV will automatically cycle through all the TV or CABLE channels selected by the TV/CABLE function, and store active channels in the channel memory.

3 When channel programming is complete, you will see the message to the right appears.

4 Press **CHANNEL** ▲ or ▼ to make sure the channel programming has been done properly.

ADD/ERASE function

After performing the CH PROGRAM function, you can add or erase specific channels.

1 Select the channel you want to erase using the **CHANNEL** ▲ or ▼ button, or select the channel you want to add using the **Channel Number** buttons.

2 Press **MENU**, then press ► or ◄ until the SET UP menu appears.

3 Press ▼ (or ▲) until "ADD/ERASE" is highlighted.

4 Press ► or ◄ :
To erase the channel
Press the button until "ERASE" is highlighted.

To add the channel
Press the button until "ADD" is highlighted.

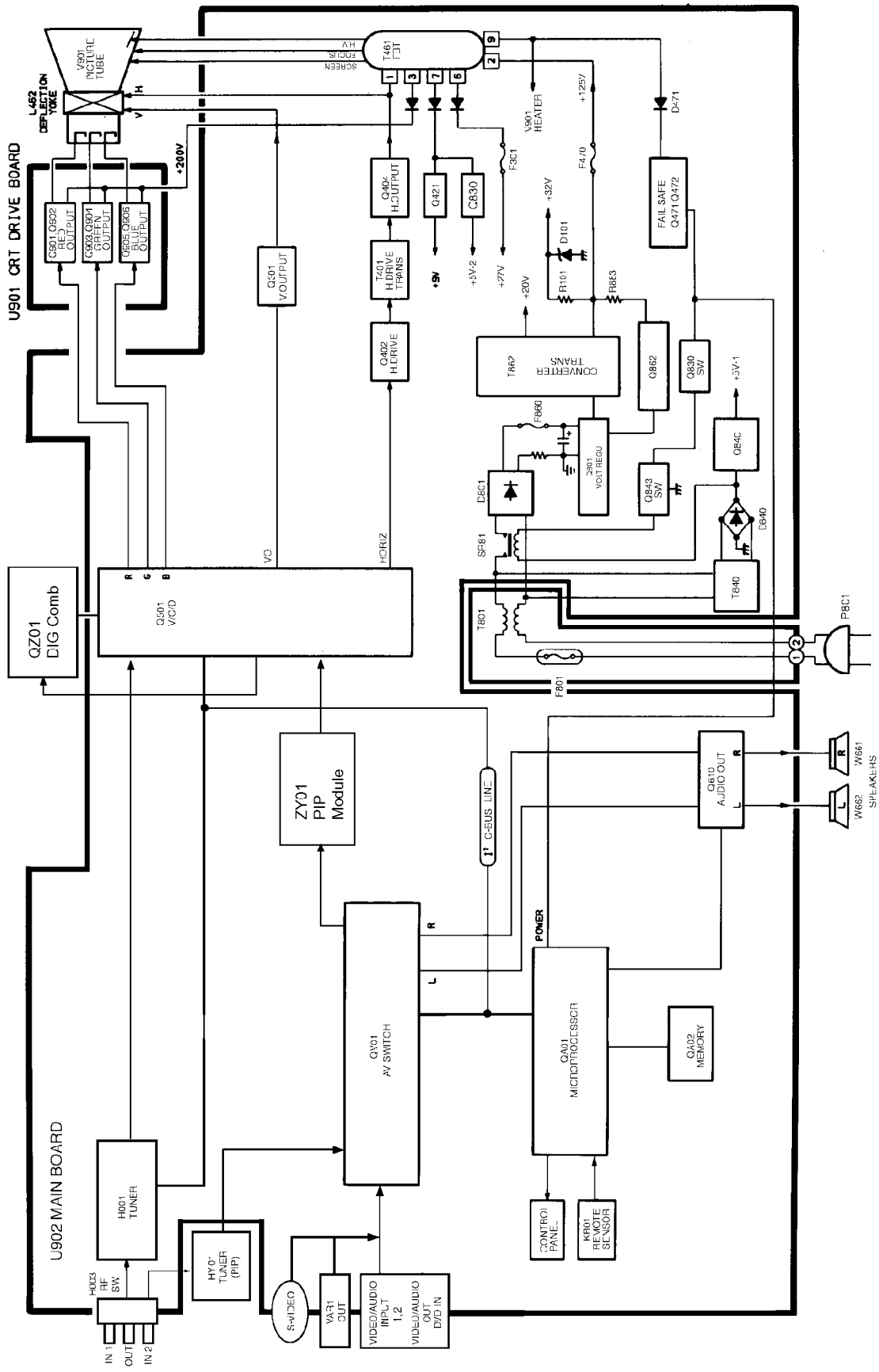
5 Repeat steps 1 to 4 for other channels.

You have now completed the channel programming.

Note: The CHANNEL ▼/▲ buttons on the TV function as the ▼/▲ buttons while a menu is on the screen.

*Please refer to owner's manual in detil.

CIRCUIT BLOCK DIAGRAM



CHASSIS AND CABINET REPLACEMENT PARTS LIST

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" ON PAGE 3 OF THIS MANUAL.

CAUTION: The international hazard symbols "⚠" in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. The mounting position of replacements is to be identical with originals. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE. Do not degrade the safety of the receiver through improper servicing.

NOTICE:
- *The part number must be used when ordering parts, in order to assist in processing, be sure to include the Model number and Description.*
- *The PC board assembly with ∗mark is no longer available after the end of the production.*

Model : 36AF61

Capacitors	CD	:	Ceramic Disk	PF	:	Plastic Film	EL	: Electrolytic
Resistors	CF	:	Carbon Film	CC	:	Carbon Composition	MF	: Metal Film
	OMF	:	Oxide Metal Film	VR	:	Variable Resistor	FR	: Fusible Resistor

(All CD and PF capacitors are ±5%, 50V and all resistors, ±5%, 1/6W unless otherwise noted.)

Location No.	Parts No.	Description
CAPACITORS		
C102	24793221	ELECTROLYTIC CE04G 10V 220UF M
C105	24212102	CERAMIC DISK CK45 B 50V 1000PF K
C106	24797479	ELECTROLYTIC CE04G 50V 4.7UF M
C107	24763221	ELECTROLYTIC, 16V 220UF M
C110	24794470	ELECTORLYTIC CE04G 16V 47UF M
C115	24212102	CERAMIC DISK CK45 B 50V 1000PF K
C117	24763221	ELECTROLYTIC, 16V 220UF M
C150	24794101	ELECTROLYTIC, 16V 100UF M
C201	24503041	MT PLA CAP 63V 0.1UF J
C204	24797010	ELECTROLYTIC CE04G 50V 1.0UF M
C205	24794100	ELECTROLYTIC CE04G 16V 10UF M
C207	24436270	CERAMIC DISC CC45SL 50V 27PFJ
C208	24436270	CERAMIC DISC CC45SL 50V 27PFJ
C209	24436270	CERAMIC DISC CC45SL 50V 27PFJ
C213	24503041	MT PLA CAP 63V 0.1UF J
C216	24797100	ELECTROLYTIC CE04G 50V 10UF M
C220	24539474	MT PLA CAP M 50V 474J MUL
C224	24503041	MT PLA CAP 63V 0.1UF J
C225	24503041	MT PLA CAP 63V 0.1UF J
C226	24503041	MT PLA CAP 63V 0.1UF J
C261	24503041	MT PLA CAP 63V 0.1UF J
C262	24503041	MT PLA CAP 63V 0.1UF J
C263	24503041	MT PLA CAP 63V 0.1UF J
C301	24214561	CERAMIC DISK CK45 B 500V 560PF K
C304	24693273	PLASTIC FILM CQ921 M 100V 0.027MF J
C305	24617915	ELECTROLYTIC CE04CH 50V 1.0UF K 3A LI
C306	24073059	ELECTROLYTIC CE04P 25V 3300UF M 3A
C308	24668221	ELECTROLYTIC CE04Q 35V 220UF M 3A
C309	24591102	PLASTIC FILM, 50V 1000PF J
C310	24796102	ELECTROLYTIC CE04G 35V 1000UF M
C312	24503041	MT PLA CAP 63V 0.1UF J
C313	24082057	PLASTIC FILM CF922 M 100V 220000PF J
C317	24214471	CERAMIC DISK CK45 B 500V 470PF K
C319	24212102	CERAMIC DISK CK45 B 50V 1000PF K
C320	24668101	ELECTROLYTIC CE04Q 35V 100UF M 3A
C323	24503049	MT PLA CAP 63V 0.47UF J
C325	24503039	MT PLA CAP 63V 0.068UF J
C326	24503041	MT PLA CAP 63V 0.1UF J

Location No.	Parts No.	Description
C327	24617915	ELECTROLYTIC CE04CH 50V 1.0UF K 3A LI
C328	24591102	PLASTIC FILM, 50V 1000PF J
C337	24797229	ELECTROLYTIC, 50V 2.2UF M
C360	24793221	ELECTROLYTIC CE04G 10V 220UF M
C361	24794101	ELECTROLYTIC, 16V 100UF M
C366	24693154	PLASTIC FILM CQ921 M 100V 0.15MF J
C370	24668101	ELECTROLYTIC CE04Q 35V 100UF M 3A
C371	24668100	ELECTROLYTIC, 35V 10UF M 3A
C391	24666100	ELECTROLYTIC, 10V 10UF M 3A
C393	24666100	ELECTROLYTIC, 10V 10UF M 3A
C396	24082825	PLASTIC FILM CF92 T 1800VH 1800PF H
C399	24085981	CE04J 16V 10UF M 11L NP
C400	24503041	MT PLA CAP 63V 0.1UF J
C403	24591103	PLASTIC FILM, 50V 0.01MF J
C404	24797010	ELECTROLYTIC CE04G 50V 1.0UF M
C407	24503041	MT PLA CAP 63V 0.1UF J
C408	24591273	PLASTIC FILM, 50V 0.027MF J
C409	24763221	ELECTROLYTIC, 16V 220UF M
C413	24214821	CERAMIC DISK CK45 B 500V 820PF K
C415	24567273	PLASTIC FILM CF92 M 50V 27000PF J
C416	24678010	ELECTROLYTIC CE04Q 200V 1.0UF M 3A
C417	24214391	CERAMIC DISK CK45 B 500V 390PF K
C421	24794101	ELECTROLYTIC, 16V 100UF M
C431	24794101	ELECTROLYTIC, 16V 100UF M
C439	24829753	PLASTIC FILM CQ92 T 400V 75000PF J
⚠ C440	24082592	PLASTIC FILM CF92 T 1800VH 1000PF H
C441	24082917	PLASTIC FILM, 0.30MFD, 315V, J
⚠ C442	24082925	PLASTIC FILM CF92 T 315V 0.62UF J
C443	24082961	PLASTIC FILM CF92 T 1500VH 8200PF H
⚠ C444	24082957	PLASTIC FILM CF92 T 1500VH 7500PF H
C445	24828563	PLASTIC FILM, 200V 56000PF J
C446	24679100	ELECTROLYTIC, 250V 10UF M 3A
C448	24640962	CHEMICON 04H 200V 330M
C449	24666102	ELECTROLYTIC, 16V 1000UF M 3A
C450	24829473	PLASTIC FILM CQ92 T 400V 47000PF J
C457	24591222	PLASTIC FILM, 50V 2200PF J
C461	24082923	PLASTIC FILM CF92 T 315V 0.51UF J
C463	24212152	CERAMIC DISK CK45 B 50V 1500PF K
C464	24640872	ELECTROLYTIC CE04R 100V 10UF M 3A

Location No.	Parts No.	Description
C465	24212472	CERAMIC DISK CK45 B 50V 4700PF K
⚠ C467	24820243	PLASTIC FILM CQ92 T 630V 24000PF
C469	24820243	PLASTIC FILM CQ92 T 630V 24000PF
C471	24797479	ELECTROLYTIC CE04G 50V 4.7UF M
C473	24797479	ELECTROLYTIC CE04G 50V 4.7UF M
C474	24797479	ELECTROLYTIC CE04G 50V 4.7UF M
C476	24829273	PLASTIC FILM CQ92 T 400V 27000PF J
C480	24747220	ELECTROLYTIC CE04HS 50V 22UF M 7L 3A
C481	24503049	MT PLA CAP 63V 0.47UF J
C482	24797478	ELECTROLYTIC CE04G 50V 0.47UF M
C499	24212102	CERAMIC DISK CK45 B 50V 1000PF K
C501	24436102	CERAMIC DISC CC45SL 50V 1000PF J
C504	24591222	PLASTIC FILM, 50V 2200PF J
C505	24353120	CERAMIC DISC CC45CH 50V 12PF J
C510	24763101	ELECTROLYTIC CE04G 16V 100UF M
C512	24206228	CE04WS 50V 0.22UF M 7L 3A
C583	24762471	ELECTROLYTIC CE04G 10V 470UF M
C612	24794470	ELECTORLYTIC CE04G 16V 47UF M
C661	24212102	CERAMIC DISK CK45 B 50V 1000PF K
C662	24212102	CERAMIC DISK CK45 B 50V 1000PF K
C663	24666100	ELECTROLYTIC, 10V 10UF M 3A
C671	24795470	ELECTROLYTIC CE04G 25V 47UF M
C672	24795470	ELECTROLYTIC CE04G 25V 47UF M
C673	24669229	ELECTROLYTIC, 50V 2.2UF M 3A
C674	24669010	ELECTROLYTIC, 50V 1.0UF M 3A
C675	24669010	ELECTROLYTIC, 50V 1.0UF M 3A
C676	24503041	MT PLA CAP 63V 0.1UF J
C677	24503041	MT PLA CAP 63V 0.1UF J
C678	24669229	ELECTROLYTIC, 50V 2.2UF M 3A
C679	24795470	ELECTROLYTIC CE04G 25V 47UF M
C681	24667102	ELECTROLYTIC CE04Q 25V 1000UF M 3A
C682	24668471	ELECTROLYTIC, 35V 470UF M 3A
C683	24667102	ELECTROLYTIC CE04Q 25V 1000UF M 3A
C707	24794101	ELECTROLYTIC, 16V 100UF M
C713	24709100	ELECTROLYTIC CE04G 200V 10UF M
C714	24436101	CERAMIC DISC CC45 SL 50V100PF J
C715	24214472	CERAMIC DISK CK45 B 500V 4700PF K
C716	24436101	CERAMIC DISC CC45 SL 50V100PF J
C717	24214472	CERAMIC DISK CK45 B 500V 4700PF K
C718	24794470	ELECTORLYTIC CE04G 16V 47UF M
C719	24435560	PCERA CAP SL 500V 560J
C720	24709100	ELECTROLYTIC CE04G 200V 10UF M
C721	24794470	ELECTORLYTIC CE04G 16V 47UF M
C726	24212102	CERAMIC DISK CK45 B 50V 1000PF K
C801	24503002	MT PLA AC275V 0.22UF M
C802	24503001	PLASTIC FILM, AC275V 0.1UF M
C805	24092623	CERAMIC DISC CKS45F 250V 10000PFZ
C806	24092623	CERAMIC DISC CKS45F 250V 10000PFZ
C808	24667221	ELECTROLYTIC, 25V 220UF M 3A
C810	24073103	200V 680UF RUBIKON CE692Q2D681M
C810A	23960136	SILICONE, TSE3843-W, ADHESIVE
C811	24092597	CERAMIC DISC CK45E AC250V 4700PF M
C811A	23960136	SILICONE, TSE3843-W, ADHESIVE
C812	24092597	CERAMIC DISC CK45E AC250V 4700PF M
C813	24092597	CERAMIC DISC CK45E AC250V 4700PF M
C815	24092597	CERAMIC DISC CK45E AC250V 4700PF M
C816	24092597	CERAMIC DISC CK45E AC250V 4700PF M
C817	24092339	CERAMIC DISC CK45R 2KV 330PF K
C818	24082402	PLASTIC FILM, 1250VH 2200PF H
C821	24214471	CERAMIC DISK CK45 B 500V 470PF K
C822	24503041	MT PLA CAP 63V 0.1UF J
C823	24212471	CERAMIC DISK CK45 B 50V 470PF K
C829	24591681	PLASTIC FILM CQ921 M 50V 680PF J
C832	24794470	ELECTORLYTIC CE04G 16V 47UF M
C840	24795221	ELECTROLYTIC CE04G 25V 220UF M

Location No.	Parts No.	Description
C842	24792101	ELECTROLYTIC CE04G 6.3V 100UF M
C843	24797479	ELECTROLYTIC CE04G 50V 4.7UF M
C850	24794470	ELECTORLYTIC CE04G 16V 47UF M
C884	24086049	ELECTROLYTIC CE692J 160V 330UF M 3D
C886	24214471	CERAMIC DISK CK45 B 500V 470PF K
C889	24796222	ELECTROLYTIC CE04G 35V 2200UF M
C891	24591223	PLASTIC FILM, 50V 0.022MF J
C893	24092339	CERAMIC DISC CK45R 2KV 330PF K
C898	24539224	PLASTIC FILM, 50V 0.22 UF J
C902	24092353	CERAMIC DISC CK45R 2KV 4700PF K
C904	24436331	CERAMIC DISC CC45 SL 50V330PF J
C905	24436331	CERAMIC DISC CC45 SL 50V330PF J
C907	24436331	CERAMIC DISC CC45 SL 50V330PF J
C909	24679220	ELECTROLYTIC CE04Q 250V 22UF M 3A
C910	24797478	ELECTROLYTIC CE04G 50V 0.47UF M
C911	24203100	ELECTORLYTIC CE04WS 16V 10UF M 7L 3A
C912	24794471	ELECTROLYTIC CE04G 16V 470UF M
C913	24794100	ELECTROLYTIC CE04G 16V 10UF M
C914	24212103	CERAMIC DISK CK45 B 50V 10000PF K
C930	24214101	CERAMIC DISK CK45 B 500V 100PF K
C970	24794470	ELECTORLYTIC CE04G 16V 47UF M
C971	24794470	ELECTORLYTIC CE04G 16V 47UF M
C972	24794470	ELECTORLYTIC CE04G 16V 47UF M
C3440	24082395	PLASTIC FILM, 1250VH 1100PF H
C4463	24567224	PLASTIC FILM, 50V 0.22UF J
CA13	24436470	CERAMIC DISC CC45 SL 50V47PF J
CA36	24212101	CERAMIC DISK CK45 B 50V 100PF K
CA37	24212101	CERAMIC DISK CK45 B 50V 100PF K
CA38	24212101	CERAMIC DISK CK45 B 50V 100PF K
CA42	24794100	ELECTROLYTIC CE04G 16V 10UF M
CA68	24794100	ELECTROLYTIC CE04G 16V 10UF M
CB01	24794470	ELECTORLYTIC CE04G 16V 47UF M
CB01	24797470	ELECTROLYTIC, 50V 47UF M
CB41	24763221	ELECTROLYTIC, 16V 220UF M
CB48	24436101	CERAMIC DISC CC45 SL 50V100PF J
CD80	24794100	ELECTROLYTIC CE04G 16V 10UF M
CG02	24203220	ELECTROLYTIC CE04WS 16V 22UF M 7L 3A
CG03	24503041	MT PLA CAP 63V 0.1UF J
CG05	24797010	ELECTROLYTIC CE04G 50V 1.0UF M
CG06	24797479	ELECTROLYTIC CE04G 50V 4.7UF M
CG07	24206229	CE04WS 50V 2.2UF M 7L 3A
CG08	24591473	PLASTIC FILM, 50V 0.047MF J
CG09	24797478	ELECTROLYTIC CE04G 50V 0.47UF M
CG10	24503041	MT PLA CAP 63V 0.1UF J
CG12	24206108	CE04WS 50V 0.1UF M 7L 3A
CG13	24704335	TA SOLID ELEC.CS15H 16V 3.3UF M
CG14	24797010	ELECTROLYTIC CE04G 50V 1.0UF M
CG16	24704106	TA SOLID ELEC.CS15H 16V 10UF M
CG17	24797010	ELECTROLYTIC CE04G 50V 1.0UF M
CG18	24797010	ELECTROLYTIC CE04G 50V 1.0UF M
CG19	24797479	ELECTROLYTIC CE04G 50V 4.7UF M
CG20	24797010	ELECTROLYTIC CE04G 50V 1.0UF M
CG27	24591223	PLASTIC FILM, 50V 0.022MF J
CG28	24797229	ELECTROLYTIC, 50V 2.2UF M
CG29	24591102	PLASTIC FILM, 50V 1000PF J
CG30	24206108	CE04WS 50V 0.1UF M 7L 3A
CG31	24797229	ELECTROLYTIC, 50V 2.2UF M
CG32	24591102	PLASTIC FILM, 50V 1000PF J
CG33	24206108	CE04WS 50V 0.1UF M 7L 3A
CG37	24206229	CE04WS 50V 2.2UF M 7L 3A
CG38	24206229	CE04WS 50V 2.2UF M 7L 3A
CG42	24206010	CE04WS 50V 1.0UF M 7L 3A
CG44	24203100	ELECTORLYTIC CE04WS 16V 10UF M 7L 3A
CG46	24203101	CE04WS 16V 100UF M 7L 3A
CG60	24797220	ELECTROLYTIC CE04G 50V 22UF M

Location No.	Parts No.	Description
CG61	24797220	ELECTROLYTIC CE04G 50V 22UF M
CG62	24797229	ELECTROLYTIC, 50V 2.2UF M
CG63	24797010	ELECTROLYTIC CE04G 50V 1.0UF M
CG66	24794470	ELECTORLYTIC CE04G 16V 47UF M
CG68	24794100	ELECTROLYTIC CE04G 16V 10UF M
CG69	24797479	ELECTROLYTIC CE04G 50V 4.7UF M
CG70	24794220	ELECTROLYTIC CE04G 16V 22UF M
CG71	24794100	ELECTROLYTIC CE04G 16V 10UF M
CG72	24794221	ELECTROLYTIC CE04G 16V 220UF M
CM51	24503041	MT PLA CAP 63V 0.1UF J
CM58	24503041	MT PLA CAP 63V 0.1UF J
CR01	24503041	MT PLA CAP 63V 0.1UF J
CR02	24503041	MT PLA CAP 63V 0.1UF J
CR03	24503041	MT PLA CAP 63V 0.1UF J
CR98	24436100	CERAMIC DISC CC45SL 50V SL 10PF C
CR99	24436100	CERAMIC DISC CC45SL 50V SL 10PF C
CS02	24797229	ELECTROLYTIC, 50V 2.2UF M
CS04	24797229	ELECTROLYTIC, 50V 2.2UF M
CS08	24797229	ELECTROLYTIC, 50V 2.2UF M
CS10	24797229	ELECTROLYTIC, 50V 2.2UF M
CS14	24797229	ELECTROLYTIC, 50V 2.2UF M
CS16	24797229	ELECTROLYTIC, 50V 2.2UF M
CS25	24797229	ELECTROLYTIC, 50V 2.2UF M
CS26	24797229	ELECTROLYTIC, 50V 2.2UF M
CS40	24797010	ELECTROLYTIC CE04G 50V 1.0UF M
CS42	24797010	ELECTROLYTIC CE04G 50V 1.0UF M
CS43	24436331	CERAMIC DISC CC45 SL 50V330PF J
CS44	24436331	CERAMIC DISC CC45 SL 50V330PF J
CS45	24436331	CERAMIC DISC CC45 SL 50V330PF J
CS46	24436331	CERAMIC DISC CC45 SL 50V330PF J
CS47	24436331	CERAMIC DISC CC45 SL 50V330PF J
CS48	24436331	CERAMIC DISC CC45 SL 50V330PF J
CS49	24436331	CERAMIC DISC CC45 SL 50V330PF J
CS50	24436331	CERAMIC DISC CC45 SL 50V330PF J
CS51	24212102	CERAMIC DISK CK45 B 50V 1000PF K
CS52	24212102	CERAMIC DISK CK45 B 50V 1000PF K
CS70	24794220	ELECTROLYTIC CE04G 16V 22UF M
CS71	24794220	ELECTROLYTIC CE04G 16V 22UF M
CS115	24206010	CE04WS 50V 1.0UF M 7L 3A
CS116	24206010	CE04WS 50V 1.0UF M 7L 3A
CS118	24794470	ELECTORLYTIC CE04G 16V 47UF M
CS120	24206010	CE04WS 50V 1.0UF M 7L 3A
CS625	24797479	ELECTROLYTIC CE04G 50V 4.7UF M
CS626	24797479	ELECTROLYTIC CE04G 50V 4.7UF M
CS627	24797479	ELECTROLYTIC CE04G 50V 4.7UF M
CS628	24797479	ELECTROLYTIC CE04G 50V 4.7UF M
CS630	24794101	ELECTROLYTIC, 16V 100UF M
CV03	24206108	CE04WS 50V 0.1UF M 7L 3A
CV09	24503041	MT PLA CAP 63V 0.1UF J
CV13	24206108	CE04WS 50V 0.1UF M 7L 3A
CV24	24591473	PLASTIC FILM, 50V 0.047MF J
CV25	24794220	ELECTROLYTIC CE04G 16V 22UF M
CV27	24206108	CE04WS 50V 0.1UF M 7L 3A
CV31	24503041	MT PLA CAP 63V 0.1UF J
CV38	24763471	ELECTROLYTIC CE04G 16V 470UF M
CV41	24591223	PLASTIC FILM, 50V 0.022MF J
CV46	24794101	ELECTROLYTIC, 16V 100UF M
CV47	24794100	ELECTROLYTIC CE04G 16V 10UF M
CV49	24794100	ELECTROLYTIC CE04G 16V 10UF M
CV60	24763471	ELECTROLYTIC CE04G 16V 470UF M
CV61	24762471	ELECTROLYTIC CE04G 10V 470UF M
CZ03	24092743	CERAMIC CHIP CK73F 10V 470NF Z
CZ05	24109103	CERAMIC CHIP CK73B 50V 10000PF K
CZ07	24092730	CERAMIC CHIP, 16V 0.1UF K
CZ09	24105220	CERAMIC CHIP CC73CH 50V 22PF J

Location No.	Parts No.	Description
CZ10	24105100	CERAMIC CHIP CC73CH 50V 10PF D
CZ11	24105220	CERAMIC CHIP CC73CH 50V 22PF J
CZ12	24109103	CERAMIC CHIP CK73B 50V 10000PF K
CZ13	24109103	CERAMIC CHIP CK73B 50V 10000PF K
CZ14	24203100	ELECTORLYTIC CE04WS 16V 10UF M 7L 3A
CZ17	24109103	CERAMIC CHIP CK73B 50V 10000PF K
CZ19	24105181	CERAMIC CHIP CC73CH 50V 180PF J
CZ20	24109103	CERAMIC CHIP CK73B 50V 10000PF K
CZ21	24109122	CERAMIC CHIP CC73B 50V 1200PF K
CZ22	24203100	ELECTORLYTIC CE04WS 16V 10UF M 7L 3A
CZ23	24109103	CERAMIC CHIP CK73B 50V 10000PF K
CZ24	24109103	CERAMIC CHIP CK73B 50V 10000PF K
CZ25	24203100	ELECTORLYTIC CE04WS 16V 10UF M 7L 3A
CZ26	24109103	CERAMIC CHIP CK73B 50V 10000PF K
CZ28	24109103	CERAMIC CHIP CK73B 50V 10000PF K
CZ29	24109103	CERAMIC CHIP CK73B 50V 10000PF K
CZ30	24203100	ELECTORLYTIC CE04WS 16V 10UF M 7L 3A
CZ31	24092730	CERAMIC CHIP, 16V 0.1UF K
CZ32	24105150	CERAMIC CHIP CC73CH 50V 15PF J
CZ33	24105390	CERAMIC CHIP CC73CH 50V 39PF J
CZ34	24105150	CERAMIC CHIP CC73CH 50V 15PF J
CZ35	24105390	CERAMIC CHIP CC73CH 50V 39PF J
CZ37	24203100	ELECTORLYTIC CE04WS 16V 10UF M 7L 3A
CZ38	24203100	ELECTORLYTIC CE04WS 16V 10UF M 7L 3A
CZ41	24105470	CERAMIC CHIP CC73CH 50V 47PF J
CZ42	24105470	CERAMIC CHIP CC73CH 50V 47PF J
CZ45	24105100	CERAMIC CHIP CC73CH 50V 10PF D
RESISTORS		
R101	24382223	OXIDE METAL FILM, 1W 22K OHM J
R151	24366562	CARBON FILM, 1/6W 5.6K OHM J
R152	24366103	CARBON FILM, 1/6W 10K OHM J
R201	24366102	CARBON FILM, 1/6W 1K OHM J
R202	24366102	CARBON FILM, 1/6W 1K OHM J
R203	24366474	CARBON FILM, 1/6W 470K OHM J
R205	24366101	CARBON FILM, 1/6W 100 OHM J
R206	24366102	CARBON FILM, 1/6W 1K OHM J
R207	24366101	CARBON FILM, 1/6W 100 OHM J
R208	24366101	CARBON FILM, 1/6W 100 OHM J
R209	24366101	CARBON FILM, 1/6W 100 OHM J
R216	24366223	CARBON FILM, 1/6W 22K OHM J
R223	24366102	CARBON FILM, 1/6W 1K OHM J
R228	24366473	CARBON FILM, 1/6W 47K OHM J
R238	24366473	CARBON FILM, 1/6W 47K OHM J
R240	24366562	CARBON FILM, 1/6W 5.6K OHM J
R245	24366104	CARBON FILM, 1/6W 100K OHM J
R261	24366472	CARBON FILM, 1/6W 4.7K OHM J
R262	24366102	CARBON FILM, 1/6W 1K OHM J
R263	24366472	CARBON FILM, 1/6W 4.7K OHM J
R264	24366102	CARBON FILM, 1/6W 1K OHM J
R265	24366472	CARBON FILM, 1/6W 4.7K OHM J
R266	24366102	CARBON FILM, 1/6W 1K OHM J
R271	24366101	CARBON FILM, 1/6W 100 OHM J
R272	24366222	CARBON FILM, 1/6W 2.2K OHM J
R275	24366103	CARBON FILM, 1/6W 10K OHM J
R303	24321109	OXIDE METAL FILM, 1/2W 1 OHM J
R304	24366623	CARBON FILM, 1/6W 62K OHM J
R305	24322828	OXIDE METAL FILM, 1W 0.82 OHM J
R306	24366683	CARBON FILM, 1/6W 68K OHM J
R307	24366684	CARBON FILM, 1/6W 680K OHM J
R311	24366392	CARBON FILM, 1/6W 3.9K OHM J
R312	24366153	CARBON FILM, 1/6W 15K OHM J
R313	24366104	CARBON FILM, 1/6W 100K OHM J
R314	24366105	CARBON FILM, 1/6W 1M OHM J
R315	24366824	CARBON FILM, 1/6W 820K OHM J

Location No.	Parts No.	Description
R317	24366102	CARBON FILM, 1/6W 1K OHM J
R326	24366103	CARBON FILM, 1/6W 10K OHM J
R327	24339479	METAL FILM, 2W 4.7 OHM J
R328	24366684	CARBON FILM, 1/6W 680K OHM J
R336	24383181	OXIDE RES B 2W 181J
R345	24382332	OXIDE FILM 1W 3.3K J
R360	24366104	CARBON FILM, 1/6W 100K OHM J
R361	24366473	CARBON FILM, 1/6W 47K OHM J
R363	24366105	CARBON FILM, 1/6W 1M OHM J
R364	24366103	CARBON FILM, 1/6W 10K OHM J
R368	24545479	FUSIBLE, 1/4W 4.7 OHM J
R369	24366391	CARBON FILM, 1/6W 390 OHM J
R370	24321109	OXIDE METAL FILM, 1/2W 1 OHM J
R371	24366103	CARBON FILM, 1/6W 10K OHM J
R372	24366392	CARBON FILM, 1/6W 3.9K OHM J
R373	24366102	CARBON FILM, 1/6W 1K OHM J
R374	24366163	CARBON FILM, 1/6W 16K OHM J
R379	24382103	OXIDE METAL FILM, 1W 10K OHM J
R389	24366472	CARBON FILM, 1/6W 4.7K OHM J
R392	24552102	OXIDE METAL FILM, 1/2W 1K OHM J
R394	24366102	CARBON FILM, 1/6W 1K OHM J
R396	24366103	CARBON FILM, 1/6W 10K OHM J
R397	24366103	CARBON FILM, 1/6W 10K OHM J
R398	24366184	CARBON FILM, 1/6W 180K OHM J
R399	24366103	CARBON FILM, 1/6W 10K OHM J
R400	24946561	CARBON COMPOSITION GF 1/2W 560 K
R401	24366391	CARBON FILM, 1/6W 390 OHM J
R403	24366622	CARBON FILM, 1/6W 6.2K OHM J
R405	24382682	OXIDE FILM 1W 6.8K J
R406	24366104	CARBON FILM, 1/6W 100K OHM J
R407	24366103	CARBON FILM, 1/6W 10K OHM J
R408	24366472	CARBON FILM, 1/6W 4.7K OHM J
R409	24376153	CARBON RES B 1/2W 153J
R410	24366271	CARBON FILM, 1/6W 270 OHM J
R411	24366561	CARBON FILM, 1/6W 560 OHM J
R415	24553272	OXIDE METAL FILM, 1W 2.7K OHM J
R416	24510562	CERAMIC COVERED, 5W 5.6K OHM J
R418	24383181	OXIDE RES B 2W 181J
R425	24366561	CARBON FILM, 1/6W 560 OHM J
R430	24366102	CARBON FILM, 1/6W 1K OHM J
R431	24366103	CARBON FILM, 1/6W 10K OHM J
R432	24366202	CARBON FILM, 1/6W 2K OHM J
R433	24366102	CARBON FILM, 1/6W 1K OHM J
R441	24532102	FUSIBLE, 1W 1K OHM J
R443	24382513	OXIDE FILM 1W 51K J
R445	24310229	METAL FILM 1/2W 2R2 J
R448	24338228	METAL FILM 1W R22 J
R456	24366103	CARBON FILM, 1/6W 10K OHM J
R457	24366104	CARBON FILM, 1/6W 100K OHM J
R462	24366561	CARBON FILM, 1/6W 560 OHM J
R463	24322479	METAL FILM 1W 4R7 J
R472	24382270	OXIDE FILM 1W 27 J
⚠ R475	24366391	CARBON FILM, 1/6W 390 OHM J
R476	24366823	CARBON FILM, 1/6W 82K OHM J
R477	24366273	CARBON FILM, 1/6W 27K OHM J
⚠ R478	24327133	METAL FILM, 1/4W 13K OHM F
R481	24366333	CARBON FILM, 1/6W 33K OHM J
⚠ R482	24327472	METAL FILM 1/4W 4R7K F
R485	24338568	METAL FILM, 1W 0.56 OHM J
R486	24552820	OXIDE METAL FILM, 1/2W 82 OHM J
R487	24552301	OXIDE METAL FILM, 1/2W 300 OHM J
R488	24327183	METAL FILM, 1/4W 18K OHM F
R489	24327183	METAL FILM, 1/4W 18K OHM F
R490	24366102	CARBON FILM, 1/6W 1K OHM J
R493	24366102	CARBON FILM, 1/6W 1K OHM J

Location No.	Parts No.	Description
R494	24366471	CARBON F1LM, 1/6W 470 OHM J
R495	24366560	CARBON FILM, 1/6W 56 OHM J
R498	24510279	CERAMIC COVERED G 5W 2.7 J
R501	24366333	CARBON FILM, 1/6W 33K OHM J
R502	24366101	CARBON FILM, 1/6W 100 OHM J
R503	24366101	CARBON FILM, 1/6W 100 OHM J
R508	24366102	CARBON FILM, 1/6W 1K OHM J
R509	24366102	CARBON FILM, 1/6W 1K OHM J
R510	24366102	CARBON FILM, 1/6W 1K OHM J
R511	24366101	CARBON FILM, 1/6W 100 OHM J
R612	24366103	CARBON FILM, 1/6W 10K OHM J
R613	24366222	CARBON FILM, 1/6W 2.2K OHM J
R614	24366102	CARBON FILM, 1/6W 1K OHM J
R661	24366332	CARBON F1LM, 1/6W 3.3K OHM J
R662	24366332	CARBON F1LM, 1/6W 3.3K OHM J
R663	24366152	CARBON FILM, 1/6W 1.5K OHM J
R664	24366152	CARBON FILM, 1/6W 1.5K OHM J
R667	24366223	CARBON FILM, 1/6W 22K OHM J
R668	24366103	CARBON FILM, 1/6W 10K OHM J
R669	24366103	CARBON FILM, 1/6W 10K OHM J
R674	24366332	CARBON F1LM, 1/6W 3.3K OHM J
R676	24366229	CARBON FILM, 1/6W 2.2 OHM J
R677	24366229	CARBON FILM, 1/6W 2.2 OHM J
R678	24366332	CARBON F1LM, 1/6W 3.3K OHM J
R702	24366681	CARBON FILM, 1/6W 680 OHM J
R709	24366563	CARBON FILM, 1/6W 56K OHM J
R713	24366393	CARBON FILM, 1/6W 39K OHM J
R714	24552121	OXIDE METAL FILM, 1/2W 120 OHM J
R715	24366273	CARBON FILM, 1/6W 27K OHM J
R716	24366333	CARBON FILM, 1/6W 33K OHM J
R717	24366333	CARBON FILM, 1/6W 33K OHM J
R718	24366101	CARBON FILM, 1/6W 100 OHM J
R719	24366392	CARBON FILM, 1/6W 3.9K OHM J
R720	24366392	CARBON FILM, 1/6W 3.9K OHM J
R722	24366102	CARBON FILM, 1/6W 1K OHM J
R723	24366471	CARBON F1LM, 1/6W 470 OHM J
R724	24366820	CARBON FILM, 1/6W 82 OHM J
R725	24366182	CARBON FILM, 1/6W 1.8K OHM J
R730	24552100	OXIDE METAL FILM, 1/2W 10 OHM J
R731	24552331	OXIDE METAL FILM, 1/2W 330 OHM J
R732	24366820	CARBON FILM, 1/6W 82 OHM J
R733	24366683	CARBON FILM, 1/6W 68K OHM J
R734	24366820	CARBON FILM, 1/6W 82 OHM J
R735	24366683	CARBON FILM, 1/6W 68K OHM J
R736	24366620	CARBON FILM, 1/6W 62 OHM J
R737	24366152	CARBON FILM, 1/6W 1.5K OHM J
R738	24366102	CARBON FILM, 1/6W 1K OHM J
R739	24366152	CARBON FILM, 1/6W 1.5K OHM J
R740	24366620	CARBON FILM, 1/6W 62 OHM J
R741	24366279	CARBON FILM, 1/6W 2.7 OHM J
R742	24366279	CARBON FILM, 1/6W 2.7 OHM J
R743	24554221	OXIDE METAL FILM, 2W 220 OHM J
R744	24366122	CARBON FILM, 1/6W 1.2K OHM J
R745	24366122	CARBON FILM, 1/6W 1.2K OHM J
R808	24019477	THERMISTOR, PTC AC140V 1R5 M
R810	24569828	CERAMIC COVERED G 10W 0.82 K
R814	24366103	CARBON FILM, 1/6W 10K OHM J
R815	24552472	OXIDE METAL FILM, 1/2W 4.7K OHM J
R818	24510150	CERAMIC COVERED G 5W 15 J
R820	24004942	METAL FILM 1W R10 J
R821	24552101	OXIDE METAL FILM, 1/2W 100 OHM J
R823	24366152	CARBON FILM, 1/6W 1.5K OHM J
R829	24004943	METAL FILM 1W R12 J
R830	24548569	FUSIBLE 2W 5R6 J
R831	24366561	CARBON FILM, 1/6W 560 OHM J

Location No.	Parts No.	Description
R835	24552471	OXIDE METAL FILM, 1/2W 470 OHM J
R850	24322759	METAL FILM 1W 7R5 J
R851	24366561	CARBON FILM, 1/6W 560 OHM J
R861	24553153	OXIDE METAL FILM, 1W 15K OHM J
R883	24552102	OXIDE METAL FILM, 1/2W 1K OHM J
R884	24366471	CARBON F1LM, 1/6W 470 OHM J
R888	24321228	METAL FILM 1/2W R22 J
R891	24366102	CARBON FILM, 1/6W 1K OHM J
R898	24002000	CARBON COMPOSITION GE 1/2W 3R9M K
R901	24376561	CARBON FILM SB1/2W 560. J
R902	24376561	CARBON FILM SB1/2W 560. J
R903	24376561	CARBON FILM SB1/2W 560. J
R904	24366103	CARBON FILM, 1/6W 10K OHM J
R905	24366101	CARBON FILM, 1/6W 100 OHM J
R912	24366102	CARBON FILM, 1/6W 1K OHM J
R914	24366561	CARBON FILM, 1/6W 560 OHM J
R915	24366101	CARBON FILM, 1/6W 100 OHM J
R916	24366680	CARBON FILM, 1/6W 68 OHM J
R917	24366471	CARBON F1LM, 1/6W 470 OHM J
R918	24366820	CARBON FILM, 1/6W 82 OHM J
R919	24366102	CARBON FILM, 1/6W 1K OHM J
R920	24000568	FUSIBLE, 1W 4.7 OHM J
R921	24366561	CARBON FILM, 1/6W 560 OHM J
R922	24366101	CARBON FILM, 1/6W 100 OHM J
R923	24366391	CARBON FILM, 1/6W 390 OHM J
R924	24366820	CARBON FILM, 1/6W 82 OHM J
R925	24366471	CARBON F1LM, 1/6W 470 OHM J
R926	24366102	CARBON FILM, 1/6W 1K OHM J
R928	24366561	CARBON FILM, 1/6W 560 OHM J
R929	24366101	CARBON FILM, 1/6W 100 OHM J
R930	24366820	CARBON FILM, 1/6W 82 OHM J
R932	24366272	CARBON FILM, 1/6W 2.7K OHM J
R933	24366750	CARBON FILM, 1/6W 75 OHM J
R934	24366391	CARBON FILM, 1/6W 390 OHM J
R935	24366821	CARBON FILM, 1/6W 820 OHM J
R936	24366750	CARBON FILM, 1/6W 75 OHM J
R937	24366471	CARBON F1LM, 1/6W 470 OHM J
R939	24366680	CARBON FILM, 1/6W 68 OHM J
R940	24366821	CARBON FILM, 1/6W 820 OHM J
R942	24366392	CARBON FILM, 1/6W 3.9K OHM J
R943	24366392	CARBON FILM, 1/6W 3.9K OHM J
R944	24366392	CARBON FILM, 1/6W 3.9K OHM J
R945	24366680	CARBON FILM, 1/6W 68 OHM J
R946	24366680	CARBON FILM, 1/6W 68 OHM J
R947	24366103	CARBON FILM, 1/6W 10K OHM J
R948	24366103	CARBON FILM, 1/6W 10K OHM J
R949	24366103	CARBON FILM, 1/6W 10K OHM J
R950	24366302	CARBON FILM, 1/6W 3K OHM J
R951	24366682	CARBON FILM, 1/6W 6.8K OHM J
R952	24366101	CARBON FILM, 1/6W 100 OHM J
R955	24366122	CARBON FILM, 1/6W 1.2K OHM J
R957	24366822	CARBON FILM, 1/6W 8.2K OHM J
R960	24383153	OXIDE METAL FILM, 2W 15K OHM J
R961	24383153	OXIDE METAL FILM, 2W 15K OHM J
R962	24383153	OXIDE METAL FILM, 2W 15K OHM J
R963	24383153	OXIDE METAL FILM, 2W 15K OHM J
R964	24383153	OXIDE METAL FILM, 2W 15K OHM J
R965	24383153	OXIDE METAL FILM, 2W 15K OHM J
R973	24366472	CARBON FILM, 1/6W 4.7K OHM J
R976	24366102	CARBON FILM, 1/6W 1K OHM J
R977	24366122	CARBON FILM, 1/6W 1.2K OHM J
R978	24366102	CARBON FILM, 1/6W 1K OHM J
R979	24366102	CARBON FILM, 1/6W 1K OHM J
R980	24366471	CARBON F1LM, 1/6W 470 OHM J
R981	24366821	CARBON FILM, 1/6W 820 OHM J

Location No.	Parts No.	Description
R982	24366103	CARBON FILM, 1/6W 10K OHM J
R983	24366222	CARBON FILM, 1/6W 2.2K OHM J
R984	24367152	CARBON FILM, 1/6W 1.5K OHM G
R985	24367471	CARBON FILM, 1/6W 470 OHM G
R986	24367681	CARBON FILM, 1/6W 680 OHM G
R987	24367681	CARBON FILM, 1/6W 680 OHM G
R988	24367472	CARBON FOLM, 1/6W 4.7K OHM G
R989	24367332	CARBON FILM, 1/6W 3.3K OHM G
R990	24366222	CARBON FILM, 1/6W 2.2K OHM J
R991	24367681	CARBON FILM, 1/6W 680 OHM G
R992	24366150	CARBON FILM, 1/6W 15 OHM J
R993	24366471	CARBON F1LM, 1/6W 470 OHM J
R994	24366392	CARBON FILM, 1/6W 3.9K OHM J
R997	24366272	CARBON FILM, 1/6W 2.7K OHM J
R998	24366472	CARBON FILM, 1/6W 4.7K OHM J
R999	24366472	CARBON FILM, 1/6W 4.7K OHM J
R3440	24338129	METAL FILM 1W 1R2 J
R3442	24005016	METAL GLAZE 1/2W 180K J
R3443	24005016	METAL GLAZE 1/2W 180K J
R3444	24005016	METAL GLAZE 1/2W 180K J
R3445	24005016	METAL GLAZE 1/2W 180K J
R4460	24366102	CARBON FILM, 1/6W 1K OHM J
R4461	24366102	CARBON FILM, 1/6W 1K OHM J
R4462	24366133	CARBON FILM, 1/6W 13K OHM J
R4463	24366682	CARBON FILM, 1/6W 6.8K OHM J
R4465	24366223	CARBON FILM, 1/6W 22K OHM J
R4466	24366223	CARBON FILM, 1/6W 22K OHM J
R4466	24366103	CARBON FILM, 1/6W 10K OHM J
R4467	24366223	CARBON FILM, 1/6W 22K OHM J
R4467	24366103	CARBON FILM, 1/6W 10K OHM J
R4468	24366472	CARBON FILM, 1/6W 4.7K OHM J
R4468	24366562	CARBON FILM, 1/6W 5.6K OHM J
R4469	24366102	CARBON FILM, 1/6W 1K OHM J
R4470	24366393	CARBON FILM, 1/6W 39K OHM J
R4760	24366182	CARBON FILM, 1/6W 1.8K OHM J
R4761	24366102	CARBON FILM, 1/6W 1K OHM J
R4762	24366332	CARBON F1LM, 1/6W 3.3K OHM J
R4765	24366221	CARBON FILM, 1/6W 220 OHM J
R4767	24366103	CARBON FILM, 1/6W 10K OHM J
R4770	24366822	CARBON FILM, 1/6W 8.2K OHM J
R4771	24366103	CARBON FILM, 1/6W 10K OHM J
R4772	24366564	CARBON FILM, 1/6W 560K OHM J
RA02	24366102	CARBON FILM, 1/6W 1K OHM J
RA03	24366102	CARBON FILM, 1/6W 1K OHM J
RA04	24366102	CARBON FILM, 1/6W 1K OHM J
RA05	24366102	CARBON FILM, 1/6W 1K OHM J
RA06	24366102	CARBON FILM, 1/6W 1K OHM J
RA07	24366102	CARBON FILM, 1/6W 1K OHM J
RA08	24366102	CARBON FILM, 1/6W 1K OHM J
RA09	24366102	CARBON FILM, 1/6W 1K OHM J
RA10	24366103	CARBON FILM, 1/6W 10K OHM J
RA13	24366103	CARBON FILM, 1/6W 10K OHM J
RA14	24366102	CARBON FILM, 1/6W 1K OHM J
RA15	24366102	CARBON FILM, 1/6W 1K OHM J
RA16	24366102	CARBON FILM, 1/6W 1K OHM J
RA17	24366102	CARBON FILM, 1/6W 1K OHM J
RA18	24366102	CARBON FILM, 1/6W 1K OHM J
RA20	24366221	CARBON FILM, 1/6W 220 OHM J
RA21	24366102	CARBON FILM, 1/6W 1K OHM J
RA22	24366331	CARBON FILM, 1/6W 330 OHM J
RA23	24366331	CARBON FILM, 1/6W 330 OHM J
RA24	24366331	CARBON FILM, 1/6W 330 OHM J
RA25	24366331	CARBON FILM, 1/6W 330 OHM J
RA26	24366102	CARBON FILM, 1/6W 1K OHM J
RA27	24366102	CARBON FILM, 1/6W 1K OHM J

Location No.	Parts No.	Description
RA33	24366103	CARBON FILM, 1/6W 10K OHM J
RA34	24366471	CARBON F1LM, 1/6W 470 OHM J
RA35	24366102	CARBON FILM, 1/6W 1K OHM J
RA36	24366103	CARBON FILM, 1/6W 10K OHM J
RA37	24366331	CARBON FILM, 1/6W 330 OHM J
RA38	24366331	CARBON FILM, 1/6W 330 OHM J
RA40	24366101	CARBON FILM, 1/6W 100 OHM J
RA41	24366101	CARBON FILM, 1/6W 100 OHM J
RA61	24366103	CARBON FILM, 1/6W 10K OHM J
RA62	24366103	CARBON FILM, 1/6W 10K OHM J
RA67	24366472	CARBON FILM, 1/6W 4.7K OHM J
RA68	24366472	CARBON FILM, 1/6W 4.7K OHM J
RA71	24366683	CARBON FILM, 1/6W 68K OHM J
RA72	24366223	CARBON FILM, 1/6W 22K OHM J
RA73	24366103	CARBON FILM, 1/6W 10K OHM J
RA74	24366333	CARBON FILM, 1/6W 33K OHM J
RA99	24366223	CARBON FILM, 1/6W 22K OHM J
RA201	24366472	CARBON FILM, 1/6W 4.7K OHM J
RB03	24366101	CARBON FILM, 1/6W 100 OHM J
RB11	24366271	CARBON FILM, 1/6W 270 OHM J
RB12	24366103	CARBON FILM, 1/6W 10K OHM J
RB13	24366470	CARBON FILM, 1/6W 47 OHM J
RB21	24366472	CARBON FILM, 1/6W 4.7K OHM J
RB22	24366122	CARBON FILM, 1/6W 1.2K OHM J
RB23	24366222	CARBON FILM, 1/6W 2.2K OHM J
RB24	24366472	CARBON FILM, 1/6W 4.7K OHM J
RB25	24366472	CARBON FILM, 1/6W 4.7K OHM J
RB30	24366103	CARBON FILM, 1/6W 10K OHM J
RB43	24366103	CARBON FILM, 1/6W 10K OHM J
RB44	24366103	CARBON FILM, 1/6W 10K OHM J
RB45	24366181	CARBON FILM, 1/6W 180 OHM J
RB46	24366101	CARBON FILM, 1/6W 100 OHM J
RB47	24366332	CARBON F1LM, 1/6W 3.3K OHM J
RB48	24366473	CARBON FILM, 1/6W 47K OHM J
RB49	24366102	CARBON FILM, 1/6W 1K OHM J
RD80	24366102	CARBON FILM, 1/6W 1K OHM J
RD81	24366152	CARBON FILM, 1/6W 1.5K OHM J
RD82	24366103	CARBON FILM, 1/6W 10K OHM J
RD83	24366102	CARBON FILM, 1/6W 1K OHM J
RD85	24366103	CARBON FILM, 1/6W 10K OHM J
RG02	24366101	CARBON FILM, 1/6W 100 OHM J
RG03	24366101	CARBON FILM, 1/6W 100 OHM J
RG05	24366102	CARBON FILM, 1/6W 1K OHM J
RG08	24366394	CARBON FILM, 1/6W 390K OHM J
RG09	24366473	CARBON FILM, 1/6W 47K OHM J
RG14	24366332	CARBON F1LM, 1/6W 3.3K OHM J
RG15	24327153	METAL RES K 1/4W 153F
RG16	24366162	CARBON FILM, 1/6W 1.6K OHM J
RG17	24366472	CARBON FILM, 1/6W 4.7K OHM J
RG22	24366101	CARBON FILM, 1/6W 100 OHM J
RG23	24366101	CARBON FILM, 1/6W 100 OHM J
RG41	24366103	CARBON FILM, 1/6W 10K OHM J
RG43	24366472	CARBON FILM, 1/6W 4.7K OHM J
RG44	24366222	CARBON FILM, 1/6W 2.2K OHM J
RG60	24366182	CARBON FILM, 1/6W 1.8K OHM J
RG61	24366182	CARBON FILM, 1/6W 1.8K OHM J
RG62	24366473	CARBON FILM, 1/6W 47K OHM J
RG63	24366821	CARBON FILM, 1/6W 820 OHM J
RG66	24366562	CARBON FILM, 1/6W 5.6K OHM J
RG67	24366822	CARBON FILM, 1/6W 8.2K OHM J
RG68	24366152	CARBON FILM, 1/6W 1.5K OHM J
RG69	24366564	CARBON FILM, 1/6W 560K OHM J
RG70	24366102	CARBON FILM, 1/6W 1K OHM J
RG71	24366103	CARBON FILM, 1/6W 10K OHM J
RG80	24366103	CARBON FILM, 1/6W 10K OHM J

Location No.	Parts No.	Description
RJ01	24366103	CARBON FILM, 1/6W 10K OHM J
RJ02	24366102	CARBON FILM, 1/6W 1K OHM J
RJ04	24366102	CARBON FILM, 1/6W 1K OHM J
RJ05	24323479	METAL FILM, 2W 4.7 OHM J
RJ06	24366103	CARBON FILM, 1/6W 10K OHM J
RR01	24366102	CARBON FILM, 1/6W 1K OHM J
RR02	24366472	CARBON FILM, 1/6W 4.7K OHM J
RR03	24366102	CARBON FILM, 1/6W 1K OHM J
RR04	24366472	CARBON FILM, 1/6W 4.7K OHM J
RR05	24366102	CARBON FILM, 1/6W 1K OHM J
RR06	24366472	CARBON FILM, 1/6W 4.7K OHM J
RR07	24366681	CARBON FILM, 1/6W 680 OHM J
RR08	24366682	CARBON FILM, 1/6W 6.8K OHM J
RR93	24366472	CARBON FILM, 1/6W 4.7K OHM J
RS02	24366562	CARBON FILM, 1/6W 5.6K OHM J
RS04	24366562	CARBON FILM, 1/6W 5.6K OHM J
RS08	24366562	CARBON FILM, 1/6W 5.6K OHM J
RS10	24366562	CARBON FILM, 1/6W 5.6K OHM J
RS14	24366562	CARBON FILM, 1/6W 5.6K OHM J
RS16	24366562	CARBON FILM, 1/6W 5.6K OHM J
RS25	24366562	CARBON FILM, 1/6W 5.6K OHM J
RS26	24366562	CARBON FILM, 1/6W 5.6K OHM J
RS40	24366272	CARBON FILM, 1/6W 2.7K OHM J
RS42	24366272	CARBON FILM, 1/6W 2.7K OHM J
RS43	24366103	CARBON FILM, 1/6W 10K OHM J
RS44	24366103	CARBON FILM, 1/6W 10K OHM J
RS60	24366101	CARBON FILM, 1/6W 100 OHM J
RS61	24366222	CARBON FILM, 1/6W 2.2K OHM J
RS62	24366101	CARBON FILM, 1/6W 100 OHM J
RS63	24366222	CARBON FILM, 1/6W 2.2K OHM J
RS64	24366102	CARBON FILM, 1/6W 1K OHM J
RS65	24366102	CARBON FILM, 1/6W 1K OHM J
RS66	24366102	CARBON FILM, 1/6W 1K OHM J
RS68	24366223	CARBON FILM, 1/6W 22K OHM J
RS69	24366223	CARBON FILM, 1/6W 22K OHM J
RS70	24366104	CARBON FILM, 1/6W 100K OHM J
RS71	24366104	CARBON FILM, 1/6W 100K OHM J
RS101	24366123	CARBON FILM, 1/6W 12K OHM J
RS102	24366123	CARBON FILM, 1/6W 12K OHM J
RS105	24366332	CARBON F1LM, 1/6W 3.3K OHM J
RS107	24366473	CARBON FILM, 1/6W 47K OHM J
RS108	24366473	CARBON FILM, 1/6W 47K OHM J
RS109	24366103	CARBON FILM, 1/6W 10K OHM J
RS111	24366222	CARBON FILM, 1/6W 2.2K OHM J
RS113	24366103	CARBON FILM, 1/6W 10K OHM J
RS115	24366222	CARBON FILM, 1/6W 2.2K OHM J
RS611	24366101	CARBON FILM, 1/6W 100 OHM J
RS612	24366101	CARBON FILM, 1/6W 100 OHM J
RS613	24366101	CARBON FILM, 1/6W 100 OHM J
RS614	24366101	CARBON FILM, 1/6W 100 OHM J
RV02	24366750	CARBON FILM, 1/6W 75 OHM J
RV04	24366750	CARBON FILM, 1/6W 75 OHM J
RV05	24366750	CARBON FILM, 1/6W 75 OHM J
RV07	24366103	CARBON FILM, 1/6W 10K OHM J
RV10	24366750	CARBON FILM, 1/6W 75 OHM J
RV11	24366100	CARBON FILM, 1/6W 10 OHM J
RV12	24366103	CARBON FILM, 1/6W 10K OHM J
RV19	24366101	CARBON FILM, 1/6W 100 OHM J
RV20	24366101	CARBON FILM, 1/6W 100 OHM J
RV21	24366103	CARBON FILM, 1/6W 10K OHM J
RV22	24366103	CARBON FILM, 1/6W 10K OHM J
RV35	24366103	CARBON FILM, 1/6W 10K OHM J
RV36	24366222	CARBON FILM, 1/6W 2.2K OHM J
RV60	24552101	OXIDE METAL FILM, 1/2W 100 OHM J
RV61	24366101	CARBON FILM, 1/6W 100 OHM J

Location No.	Parts No.	Description
RV62	24366750	CARBON FILM, 1/6W 75 OHM J
RV63	24366221	CARBON FILM, 1/6W 220 OHM J
RV120	24366750	CARBON FILM, 1/6W 75 OHM J
RW01	24366750	CARBON FILM, 1/6W 75 OHM J
RW02	24366750	CARBON FILM, 1/6W 75 OHM J
RW03	24366750	CARBON FILM, 1/6W 75 OHM J
RY11	24366102	CARBON FILM, 1/6W 1K OHM J
RY12	24366102	CARBON FILM, 1/6W 1K OHM J
RZ01	24872102	CHIP, METAL FILM, 1/16W 1K OHM J
RZ02	24872102	CHIP, METAL FILM, 1/16W 1K OHM J
RZ03	24872332	CHIP, METAL FILM, 1/16W 3.3K OHM J
RZ04	24872122	CHIP, METAL FILM, 1/16W 1.2K OHM J
RZ05	24872471	CHIP, METAL FILM, 1/16W 470 OHM J
RZ06	24872821	CHIP, METAL FILM, 1/16W 820 OHM J
RZ08	24872122	CHIP, METAL FILM, 1/16W 1.2K OHM J
RZ09	24872101	CHIP, METAL FILM, 1/16W 100 OHM J
RZ10	24872471	CHIP, METAL FILM, 1/16W 470 OHM J
RZ12	24872332	CHIP, METAL FILM, 1/16W 3.3K OHM J
RZ13	24872122	CHIP, METAL FILM, 1/16W 1.2K OHM J
RZ14	24872391	CHIP, METAL FILM, 1/16W 390 OHM J
RZ15	24872391	CHIP, METAL FILM, 1/16W 390 OHM J
RZ17	24872471	CHIP, METAL FILM, 1/16W 470 OHM J
RZ18	24872122	CHIP, METAL FILM, 1/16W 1.2K OHM J
RZ19	24872332	CHIP, METAL FILM, 1/16W 3.3K OHM J
RZ20	24872101	CHIP, METAL FILM, 1/16W 100 OHM J
RZ22	24872471	CHIP, METAL FILM, 1/16W 470 OHM J
RZ29	24872331	CHIP, METAL FILM, 1/16W 330 OHM J
RZ30	24872331	CHIP, METAL FILM, 1/16W 330 OHM J
COILS & TRANSFORMERS		
L101	23289845	COIL, PEAKING 68.00MMHJ COLTRF4680AT
L111	23289844	COIL, PEAKING, TRF4470AT
L121	23238562	COIL, PEAKING, TRF4109AJ
L122	23238562	COIL, PEAKING, TRF4109AJ
L301	23103880	COIL, CHOKE, TEM2011Y
L400	23238714	COIL, PEAKING, TRF4100AJ
⚠ L441	23233045	COIL, HOLIZ. LINEARITY TLN2083G
L442	23248121	COIL, CHOKE TLN3383D
⚠ L461	23248179	COIL, CHOKE TLN3339AD
L491	23228785	TRANSFORMER, DPC EI24 54.8UH TPC1016AH
L500	23289840	COIL, PEAKING, TRF4100AT
L501	23289844	COIL, PEAKING, TRF4470AT
L702	23261974	COIL, FERRITE BEAD, HC5-035
L704	23103859	COIL, CHOKE, TEM2011
L705	23103859	COIL, CHOKE, TEM2011
L805	23248227	COIL, CHOKE, TLN3481AD
L806	23248227	COIL, CHOKE, TLN3481AD
L815	23103880	COIL, CHOKE, TEM2011Y
L816	23103880	COIL, CHOKE, TEM2011Y
L883	23103880	COIL, CHOKE, TEM2011Y
L885	23248073	COIL, CHOKE, TLN3299D
L886	23103880	COIL, CHOKE, TEM2011Y
L901	23200447	COIL, DG1.10CU T-2LOOP TSB-2407AK
L902	23289101	COIL, PEAKING, TRF4101AF
L903	23289101	COIL, PEAKING, TRF4101AF
L904	23289101	COIL, PEAKING, TRF4101AF
L905	23289390	COIL, PEAKING, TRF4390AF
L906	23289390	COIL, PEAKING, TRF4390AF
L907	23289390	COIL, PEAKING, TRF4390AF
L908	23289100	COIL, PEAKING, TRF4100AF
L910	23237991	COIL, PEAKING, TRF4479AC
LA01	23289100	COIL, PEAKING, TRF4100AF
LA28	23103775	COIL, FERRITE CHOKE, TEM2014
LJ901	23200465	COIL, GEOMAGNETIC CORRECTION

Location No.	Parts No.	Description
		TSB-2411AG
LV01	23289840	COIL, PEAKING, TRF4100AT
LV02	23103852	COIL, FILTER, TEM2028AH
LV03	23103852	COIL, FILTER, TEM2028AH
LV04	23103852	COIL, FILTER, TEM2028AH
LV45	23289840	COIL, PEAKING, TRF4100AT
LV99	23103845	COIL, COMMONMODE, TEM2030AY
LZ01	23238710	COIL, PEAKING, TRF4220AJ
LZ02	23238714	COIL, PEAKING, TRF4100AJ
LZ03	23238714	COIL, PEAKING, TRF4100AJ
LZ04	23238714	COIL, PEAKING, TRF4100AJ
LZ05	23238714	COIL, PEAKING, TRF4100AJ
LZ08	23238707	COIL, PEAKING, TRF4390AJ
LZ11	23238710	COIL, PEAKING, TRF4220AJ
LZ12	23238710	COIL, PEAKING, TRF4220AJ
T400	23224364	TRANSFORMER, TLN2168AH
T401	23224367	TRANSFORMER, HORIZ.DRIVER, TLN1098AH
⚠ T461	23236672	TRANSFORMER, FLY-BACK TFB4172AD
T461Z	23236683	TRANSFORMER, FLY-BACK TFB4172ZD
T801	23211739	COIL, LINE FILTER TRF3229AL
T840	23213513	TRANSFORMER
T862	23217526	TRANSFORMER, CONVERTER TPW3482AE
SEMICONDUCTORS		
Q151	23114530	TRANSISTOR, 2SA933S
Q152	23114528	TRANSISTOR, 2SC1740S
Q201	23114528	TRANSISTOR, 2SC1740S
Q202	23114433	TRANSISTOR, 2SC1815-Y
Q203	23114433	TRANSISTOR, 2SC1815-Y
Q204	23114460	TRANSISTOR, RN1204
Q205	23114460	TRANSISTOR, RN1204
Q301	23319787	IC, LA7833S
Q301B	72471082	SCREW, 3X10MM
Q360	23114528	TRANSISTOR, 2SC1740S
Q361	23314445	TRANSISTOR, 2SC4721, Q
Q370	23114530	TRANSISTOR, 2SA933S
Q391	23314548	TRANSISTOR, 2SC4256
Q402	23114755	TRANSISTOR, 2SC2482FA-1
Q403	23314444	2SC4721, P
Q404	23314955	TRANSITOR, 2SD2553(FA)
Q404B	72471082	SCREW, 3X10MM
Q421	23314141	TRANSISTOR, 2SC3852
Q421B	23035308	SCREW, 3X8MM, TAPPING
Q462	23114530	TRANSISTOR, 2SA933S
Q463	23314938	TRANSISTOR, 2SD2493(P)
Q463B	72471082	SCREW, 3X10MM
Q471	23114426	TRANSISTOR, 2SA1015-O(TEM
Q472	23114433	TRANSISTOR, 2SC1815-Y
Q480	23114759	TRANSISTOR, 2SA949-Y
Q481	23114433	TRANSISTOR, 2SC1815-Y
Q482	23114433	TRANSISTOR, 2SC1815-Y
Q483	23114469	TRANSISTOR, R1=R2=4.7K-OHM TO92SRN2201
Q501	23906843	IC, NTSC VCDE IC N-DIP 56 TA1310N
Q503	23114528	TRANSISTOR, 2SC1740S
Q610	23000249	IC, TV SOUND OUT M-SIP TA8265K
Q610B	70391356	SCREW
Q611	23114623	TRANSISTOR, 2SC2878-A(TEM
Q612	23314962	TRANSISTOR, KTA1266 Y
Q613	23114623	TRANSISTOR, 2SC2878-A(TEM
Q706	23114433	TRANSISTOR, 2SC1815-Y
Q707	23114528	TRANSISTOR, 2SC1740S
Q709	23114528	TRANSISTOR, 2SC1740S
Q710	23114530	TRANSISTOR, 2SA933S
Q711	A6550640	TRANSISTOR, 2SA1837

Location No.	Parts No.	Description
Q712	A6369650	TRANSISTOR, 2SC4793
Q719	23114528	TRANSISTOR, 2SC1740S
Q720	23114528	TRANSISTOR, 2SC1740S
Q801	23135025	IC, HYBRID VDSS=450V STR-F6426SF2
Q801B	72471082	SCREW, 3X10MM
Q805	23114459	TRANSISTOR, RN1205
Q830	23314141	TRANSISTOR, 2SC3852
Q830B	23035308	SCREW, 3X8MM, TAPPING
Q840	23318299	IC, L78MR05-FA
Q843	23114459	TRANSISTOR, RN1205
Q850	23314707	TRANSISTOR, 2SD1944, H
Q862	23000823	PHOTO COUPLER, TLP421F(GR)
Q862A	23960136	SILICONE, TSE3843-W, ADHESIVE
⚠ Q883	23319692	IC, ERROR AMP. SE130N, LF4
Q901	23314780	TRANSISTOR, 2SC4544
Q902	23114433	TRANSISTOR, 2SC1815-Y
Q903	23314780	TRANSISTOR, 2SC4544
Q904	23114433	TRANSISTOR, 2SC1815-Y
Q905	23314780	TRANSISTOR, 2SC4544
Q906	23114433	TRANSISTOR, 2SC1815-Y
Q907	23114530	TRANSISTOR, 2SA933S
Q908	23114429	TRANSISTOR, 2SC2120-Y(TE
Q910	23114552	TRANSISTOR, 2SC1685-Q, TH
Q911	23114528	TRANSISTOR, 2SC1740S
Q912	23114530	TRANSISTOR, 2SA933S
Q913	23114530	TRANSISTOR, 2SA933S
Q914	23114552	TRANSISTOR, 2SC1685-Q, TH
Q920	23114528	TRANSISTOR, 2SC1740S
Q921	23114528	TRANSISTOR, 2SC1740S
Q922	23114528	TRANSISTOR, 2SC1740S
Q923	23114528	TRANSISTOR, 2SC1740S
Q924	23114528	TRANSISTOR, 2SC1740S
Q925	23114528	TRANSISTOR, 2SC1740S
Q4460	23114433	TRANSISTOR, 2SC1815-Y
Q4461	23114433	TRANSISTOR, 2SC1815-Y
Q4462	23114433	TRANSISTOR, 2SC1815-Y
Q4462	23114433	TRANSISTOR, 2SC1815-Y
QA01	23000818	IC, TMP88CS38N-
QA02	23905665	IC, AT24C08-10PC
QB03	23114459	TRANSISTOR, RN1205
QB11	23114528	TRANSISTOR, 2SC1740S
QB22	23114437	TRANSISTOR, 2SC752GTM-Y
QB23	23114433	TRANSISTOR, 2SC1815-Y
QB30	23114433	TRANSISTOR, 2SC1815-Y
QB40	23114433	TRANSISTOR, 2SC1815-Y
QB41	23114433	TRANSISTOR, 2SC1815-Y
QD80	23114530	TRANSISTOR, 2SA933S
QG01	23906499	IC, UPC1851BCU
QG60	23906596	IC, BA4558
QG61	23119228	IC, UPC1406HA
QJ02	23114528	TRANSISTOR, 2SC1740S
QJ03	A6369650	TRANSISTOR, 2SC4793
QJ04	23114528	TRANSISTOR, 2SC1740S
QS60	23314965	TRANSISTOR, KTC3198 Y
QS61	23314965	TRANSISTOR, KTC3198 Y
QS62	23114466	TRANSISTOR, RN2204
QS63	23114623	TRANSISTOR, 2SC2878-A(TEM
QS64	23114623	TRANSISTOR, 2SC2878-A(TEM
QS101	23904303	IC, BA10358
QS106	23000529	IC, SW 2IN 1OUT 3CIRCUIT 0 CLP MM1231XD
QV01	23000369	IC, MM1495XD
QV02	23904943	IC, MM1111XS
QV05	23114461	TRANSISTOR, RN1203
QV10	23114461	TRANSISTOR, RN1203

Location No.	Parts No.	Description
QV11	23114437	TRANSISTOR, 2SC752GTM-Y
QV60	23114433	TRANSISTOR, 2SC1815-Y
QZ01	23906904	IC, TC90A49P
QZ02	A6541132	TRANSISTOR, 2SA1162 -(Y)
QZ03	A6541132	TRANSISTOR, 2SA1162 -(Y)
QZ04	A6541132	TRANSISTOR, 2SA1162 -(Y)
QZ05	23114475	TRANSISTOR, 2SC2712, Y
QZ06	A6541132	TRANSISTOR, 2SA1162 -(Y)
QZ07	A6541132	TRANSISTOR, 2SA1162 -(Y)
QZ08	23114475	TRANSISTOR, 2SC2712, Y
D101	23316755	DIODE, ZENER MTZ J 33C
D112	23316678	DIODE, ZENER, MTZJ6.8B
D201	23316017	DIODE, 1SS120-7
D221	23316817	DIODE, 1SS120-7
D222	23316817	DIODE, 1SS120-7
D223	23316817	DIODE, 1SS120-7
D224	23316817	DIODE, 1SS120-7
D252	23118518	DIODE, ZENER, RD9.1ES
D253	23118518	DIODE, ZENER, RD9.1ES
D301	23118095	DIODE, ERB44-06
D302	23118095	DIODE, ERB44-06
D310	23118859	DIODE, 1SS133
D313	23118859	DIODE, 1SS133
D314	23118859	DIODE, 1SS133
D315	23118859	DIODE, 1SS133
D316	23316679	DIODE, ZENER, MTZJ6.8C
D370	23316672	DIODE, ZENER, MTZJ5.6B
D371	23118859	DIODE, 1SS133
D390	23316651	DIODE, ZENER MTZ J 2.4B
D395	23316725	DIODE, ZENER, MTZJ15B
D404	23316254	DIODE, ERC06-15
D406	23118094	DIODE, EU2A
D408	23357353	DIODE, VRM=200V IF(AV)=10A FML-G22S
D409	23316690	DIODE, ZENER, MTZJ10B
D411	23118520	DIODE, ZENER, RD8.2ES B2
D421	23316665	DIODE, ZENER, MTZJ4.7A
D422	23316669	DIODE, ZENER, MTZJ5.1B
D430	23118510	DIODE, ZENER, RD12ES
D441	23316687	DIODE, ZENER, MTZJ9.1B
D442	23118094	DIODE, EU2A
D460	23316969	DIODE, VRRM=600V IO=2.5A ERD29-06
D467	23118095	DIODE, ERB44-06
D468	23316719	DIODE, ZENER, MTZJ12B
D471	23118095	DIODE, ERB44-06
⚠ D472	23115774	DIODE, ZENER, RD6.2E(FA-1)
D473	23118859	DIODE, 1SS133
D477	23118859	DIODE, 1SS133
D480	23316727	DIODE, ZENER, MTZJ16A
D611	23118859	DIODE, 1SS133
D612	23118859	DIODE, 1SS133
D613	23118859	DIODE, 1SS133
D614	23118859	DIODE, 1SS133
D704	23118859	DIODE, 1SS133
D705	23118859	DIODE, 1SS133
D715	23118859	DIODE, 1SS133
D720	23118859	DIODE, 1SS133
D721	23118859	DIODE, 1SS133
D801	23357041	DIODE, LN6SB60-F05
D805	23118859	DIODE, 1SS133
D806	23118094	DIODE, EU2A
D807	23118859	DIODE, 1SS133
D810	70213235	DIODE, SCHOTTKY, AK06
D815	23316746	DIODE, ZENER, MTZJ27B
D830	23316673	DIODE, ZENER, MTZJ5.6C
D840	23316962	DIODE, S1WBA20

Location No.	Parts No.	Description
D845	23118859	DIODE, 1SS133
D850	23316673	DIODE, ZENER, MTZJ5.6C
D855	23118859	DIODE, 1SS133
D881	23118859	DIODE, 1SS133
D883	23118338	DIODE, RU4AM LF-K2
D885	23118094	DIODE, EU2A
D899	24019486	VARISTOR, ENE431D-10A
D901	23118859	DIODE, 1SS133
D903	23118859	DIODE, 1SS133
D904	23118859	DIODE, 1SS133
D905	23118859	DIODE, 1SS133
D906	23118859	DIODE, 1SS133
D907	23118859	DIODE, 1SS133
D908	23118859	DIODE, 1SS133
D909	23118859	DIODE, 1SS133
D910	23118859	DIODE, 1SS133
D911	A7568250	DIODE, 1S1834
D3440	A7568200	DIODE, 1S1832
D3441	A7568200	DIODE, 1S1832
D4387	23316686	DIODE, ZENER, MTZJ9.1A
DA42	23118529	DIODE, ZENER, RD5.6ES B2
DB01	23358564	LED, LAMP RED SLR-56VC3FPQ
DB03	23358522	DIODE, LED, SIR-56SB3F
DB05	23316675	DIODE, ZENER, MTZJ6.2B
DB30	23118859	DIODE, 1SS133
DB45	23316817	DIODE, 1SS120-7
DJ01	23316817	DIODE, 1SS120-7
DJ02	23118504	DIODE, ZENER, RD15ES B3
DS106	23316660	DIODE, ZENER, MTZJ3.9A
DV03	23118518	DIODE, ZENER, RD9.1ES
DV05	23118518	DIODE, ZENER, RD9.1ES
DV13	23118518	DIODE, ZENER, RD9.1ES
DV15	23118518	DIODE, ZENER, RD9.1ES
DV19	23118518	DIODE, ZENER, RD9.1ES
DV45	23118518	DIODE, ZENER, RD9.1ES
DV46	23316716	DIODE, ZENER, MTZJ11B
DV47	23316686	DIODE, ZENER, MTZJ9.1A
MISCELLANEOUS		
B230	23037312	SCREW
B231	23035412	SCREW
B232	23035312	SCREW
BB01A	23713201	CONNECTOR
BB01B	23713202	CONNECTOR
BB02A	23713201	CONNECTOR
BB02B	23713202	CONNECTOR
BB03A	23903022	CONNECTOR, BASE B-B 8P 2.5 JST
BB03B	23903022	CONNECTOR, BASE B-B 8P 2.5 JST
BB03C	23368627	CONNECTOR, 08TM-2.5FJ-E
BB04A	23902749	CONNECTOR
BB04B	23368517	CONNECTOR
BB05A	23713201	CONNECTOR
BB14B	23713013	BASE SOCKET 16P 1.5
BB16A	23903022	CONNECTOR, BASE B-B 8P 2.5 JST
BB16B	23903022	CONNECTOR, BASE B-B 8P 2.5 JST
F424	23144454	FUSE, AXIAL 125V 2.0A
F470	23144731	FUSE, CARTRIDGE, 5.2X20, 1.6A 125V
F470A	23165433	FUSE HOLDER, 5.2 SOC
F801	23144745	FUSE, 10.0A UL
F801A	23165433	FUSE HOLDER, 5.2 SOC
F802	23144734	FUSE, CARTRIDGE, 5.2X20, 125V 4.0A
F802A	23165433	FUSE HOLDER, 5.2 SOC
G060	24366470	CARBON FILM, 1/6W 47 OHM J
G113	23289220	COIL, PEAKING, TRF4220AF
G217	24366303	CARBON FILM, 1/6W 30K OHM J

Location No.	Parts No.	Description
G301	24366102	CARBON FILM, 1/6W 1K OHM J
G312	24503037	MT PLA CAP 63V 0.047UF J
G317	23118859	DIODE, 1SS133
G380	24946226	CARBON CONPOSITION, 1/2W 22M OHM K
G403	24946223	CARBON COMPOSITION GF 1/2W 22K K
G405	24214472	CERAMIC DISK CK45 B 500V 4700PF K
G845	23103941	COIL, CHOKE, TEM2011
G884	23316681	DIODE, ZENER, MTZJ7.5B
G890	23248247	COIL, CHOKE, TLN3499AH
G891	23248247	COIL, CHOKE, TLN3499AH
H003	23344421	ANT SWITCH, RSU133X6
H003A	23740989	NUT
KD01	23906005	IC, REMOTE PHOTO RECIEVER PIC-TD17
M461A	23192945	ANODECAP ASSEMBLY, TCCP5162
M461B	23505090	CABLE, CABLE FOCUS
M461C	23505089	CABLE, CABLE FOCUS
M461D	23504719	CABLE, CABLE SCREEN
P801	23372112	POWER CORD, CMC-02P
P910	23164725	PLUG, 2P
PV011	23365863	JACK, PIN JACK 2S6P JXT1140-01008
PV02	23365763	JACK, PIN, 3P
PV02	23365949	JACK, 5P, 1E:OFF+2R:OFF+2L:OFF, JALC
PV03	23365821	PIN JACK
PZ01	23368130	CONNECTOR, 10P
PZ01A	23902213	CONNECTOR, 10P
SA01	23145227	SWITCH, PUSH, 1C1P
SA02	23145227	SWITCH, PUSH, 1C1P
SA03	23145227	SWITCH, PUSH, 1C1P
SA04	23145227	SWITCH, PUSH, 1C1P
SA05	23145227	SWITCH, PUSH, 1C1P
SA06	23145227	SWITCH, PUSH, 1C1P
SA07	23145227	SWITCH, PUSH, 1C1P
SA08	23145227	SWITCH, PUSH, 1C1P
SJ01	23146958	RELAY
SR81	23146564	RELAY, DC12V, TV5, DG-3
SR83	23146564	RELAY, DC12V, TV5, DG-3
V901A	23903145	SOCKET, WFOCUS ISD35SE INCHANG ISD-35S-E
W661	23351088	SPEAKER, SPK1360, 60X120 8-OHM 5W
W662	23351088	SPEAKER, SPK1360, 60X120 8-OHM 5W
X401	23153721	CERAMIC RESONATOR, 503KHZ
X501	23153961	CRYSTAL, 3.58MHZ
XA01	23153504	CERAMIC RESONATOR, 8.00MHZ 25OHM
Z401	23140203	SPARK GAP, 2.0-3.0KV C-010 AG20PC152F-L3N
ZY01	23148731	MULTI PICTURE MODULE, PNT 6MW MKMP33
PC BOARD ASSEMBLIES		
✻ U801	23708485	PC BOARD, PCB PW PD0154C
✻ U901	23708483	PC BOARD, PCB CRTD PB9973C
✻ U902	23708484	PC BOARD, PCB SIGNL PD0155C
✻ U905	23786166	PC BOARD, PW UNIT 3LINE B PB9398A
✻ UA01	23708445	PC BOARD, PCB CNT1/PD0153
✻ UA02	23708446	PC BOARD, PCB CNT2/PD0152
PICTURE TUBE		
⚠ V901	23312922	PICTURE TUBE, A90AJZ90X01
TUNER		
H001	23321410	TUNER, TIF 181CH EL969L
HY01	23321379	TUNER, US181 IICPLL PJ+IF ACOM EL955LX1

Location No.	Parts No.	Description
ACCESSORIES		
K912	23306263	REMOTE CONTROL TRANSMITTER, CT-9946
Y101	23565243	OWNER'S MANUAL, ENGLISH 27AF61
Y101F	23565244	OWNER'S MANUAL, FRENCH 27AF61
CABINET PARTS		
A201	23540705	COVER, FRONT COVER ASSEMBLY 36AF61
A213	23427976	DOOR, DOOR 32AF41
A214	23451976	PUSH CATCH, CLICK
A401	23007664	OTHER BLOCK, BACK CVR 36AF60
A411	23540212	COVER, B/C PROPER 36HFX70 36HFX70
A703	23946094	PACKING, TOP PACKING 36HFX70 36HFX70
A706	23946095	PACKING, BOTTOM PACKING 36HFX7 36HFX70

Location No.	Parts No.	Description

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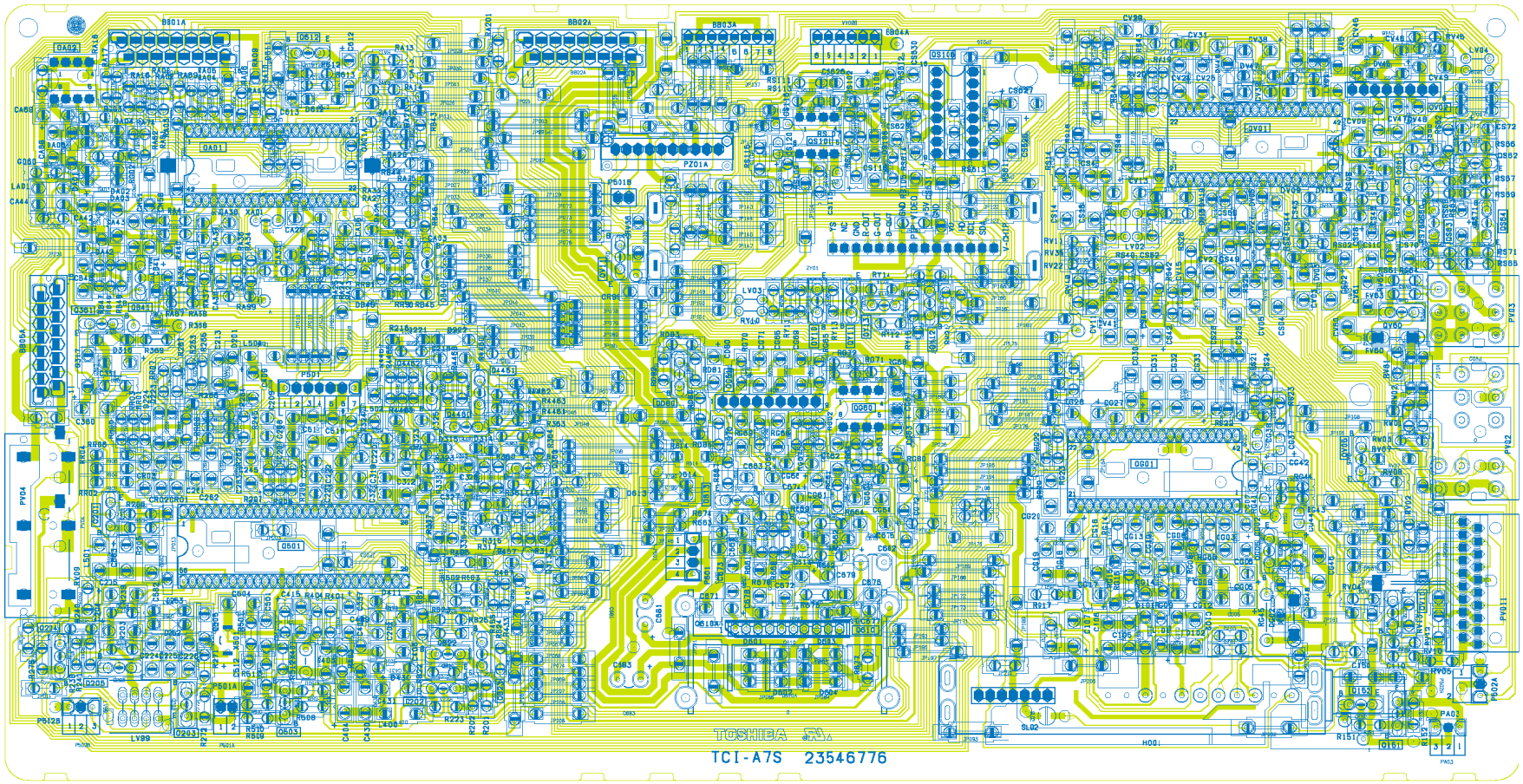
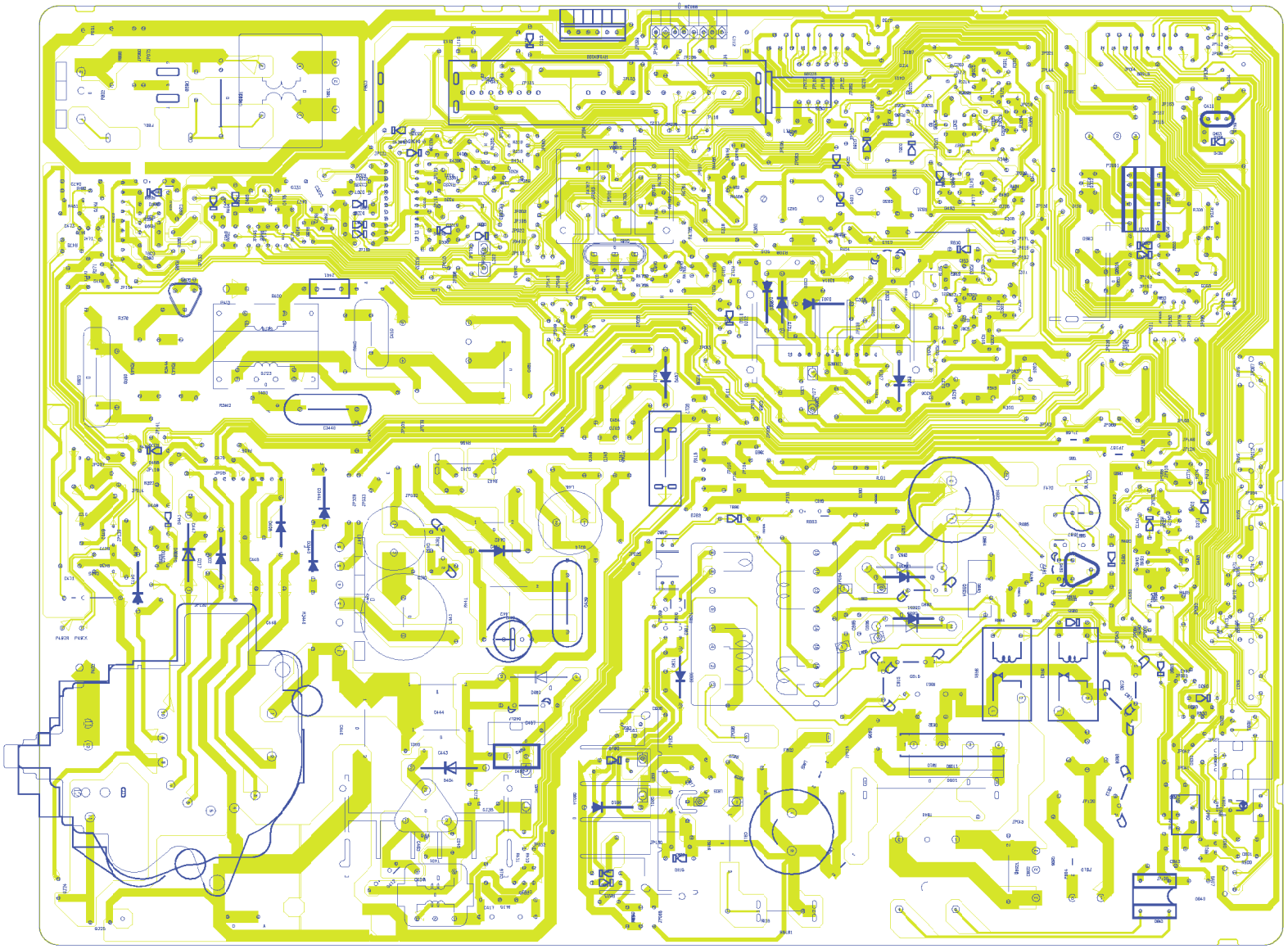
SIGNAL BOARD PD0155

BOTTOM (FOIL) SIDE



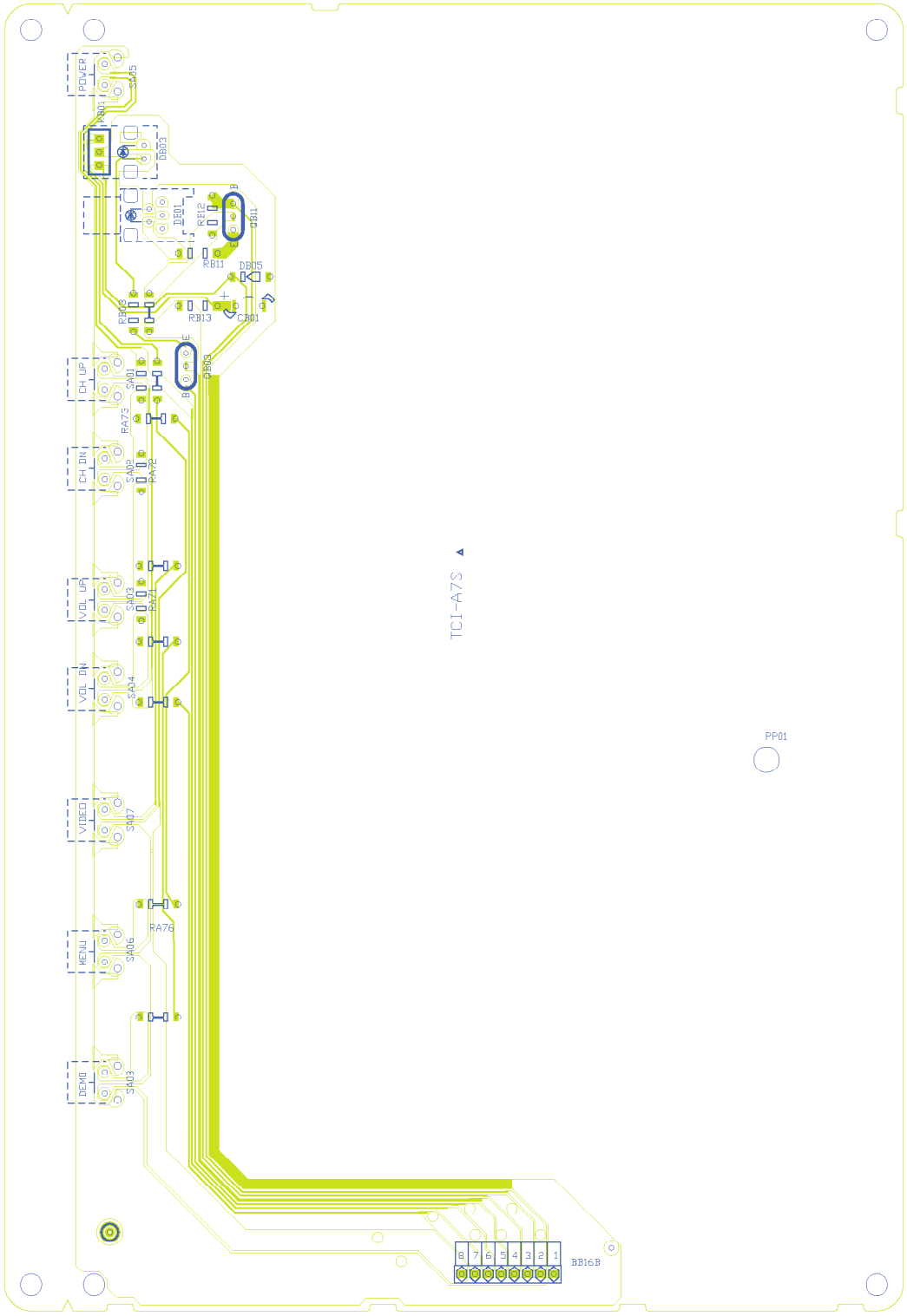
POWER/DEF BOARD PD0154

BOTTOM (FOIL) SIDE



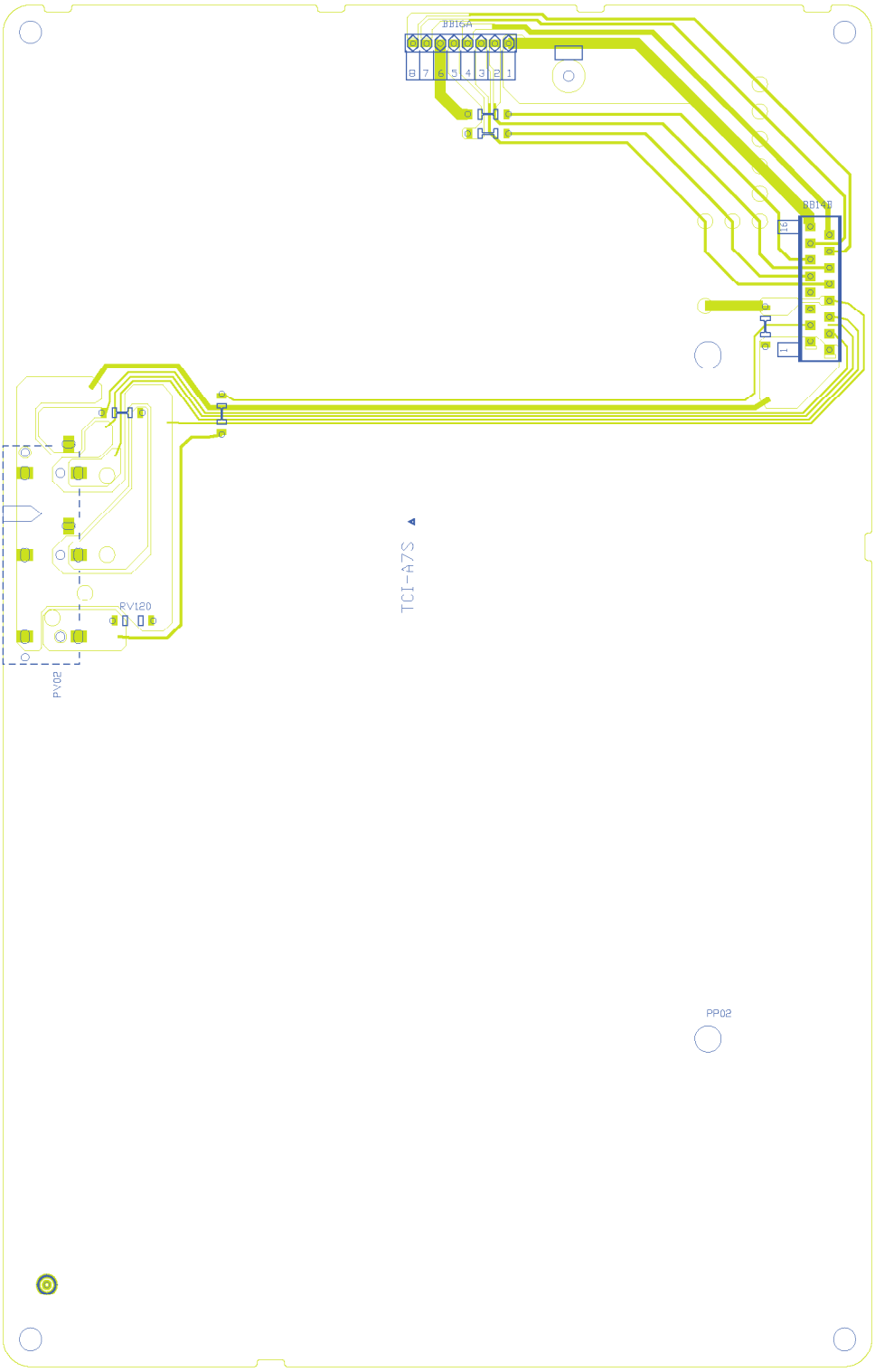
CONTROL-1 BOARD PD0153

BOTTOM (FOIL) SIDE



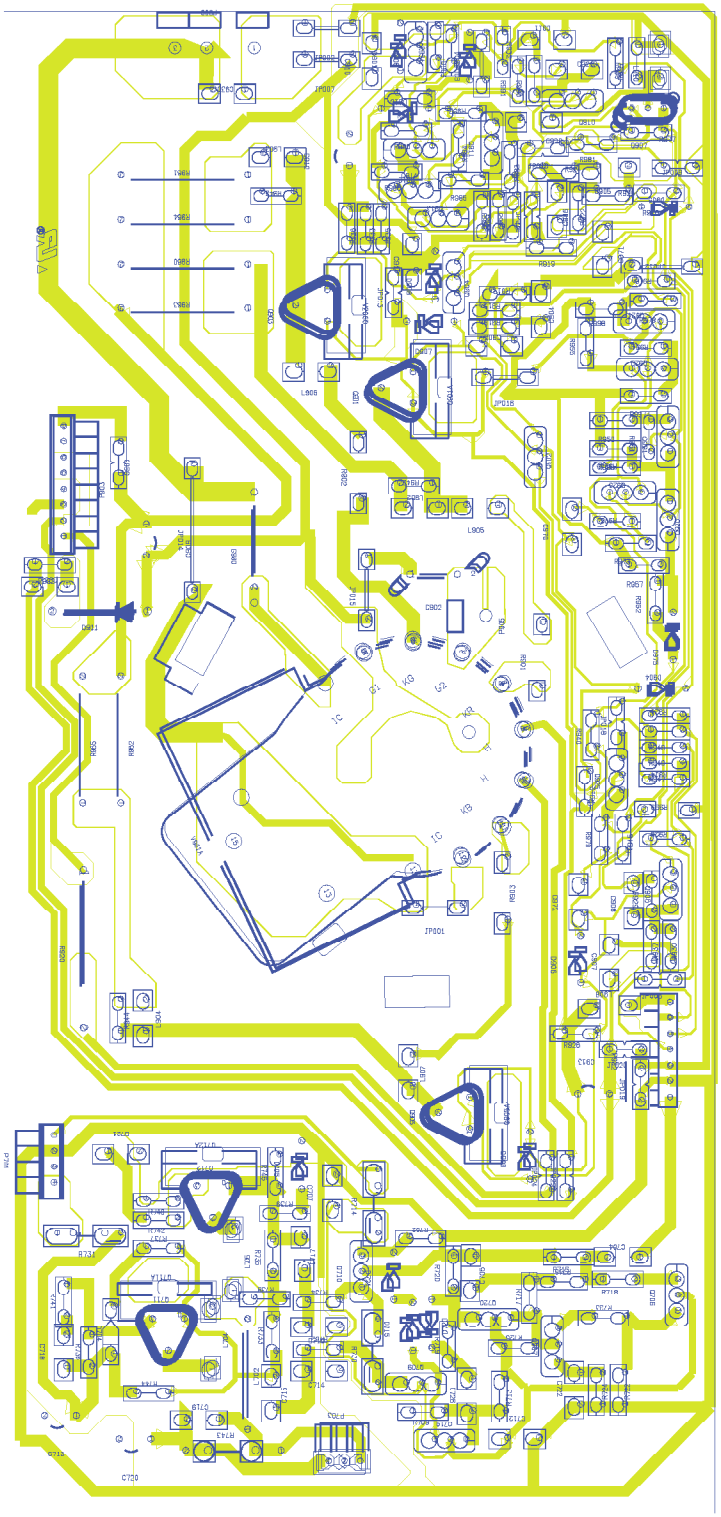
CONTROL-2 BOARD PD0152

BOTTOM (FOIL) SIDE



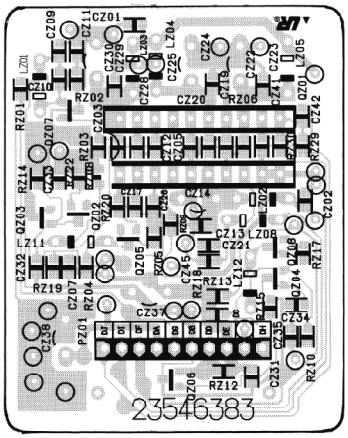
CRT DRIVE BOARD PB9973

BOTTOM (FOIL) SIDE



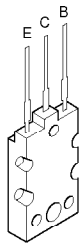
3L DIGI-COMB BOARD PB9398

BOTTOM (FOIL) SIDE

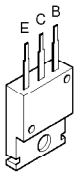


TERMINAL VIEW OF TRANSISTORS

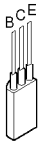
① 2SD2253
(old)
2SC5243



② 2SC3852
2SD1763A
2SC1569
2SC4544
2SA1788
2SA1306
2SA1186A

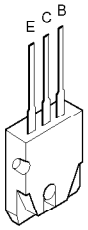


③ 2SC752GTM
2SC2482
2SC2655
2SC4721P

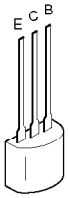


④ 2SC752
2SA562TM
2SA1015
2SC1815
2SC2878
2SC1740S
2SC2120
2SA9335

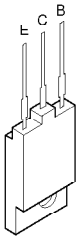
⑤ 2SA1788



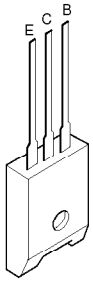
⑥ RN2203
RN2201
RN2004
RN1203
RN1204
RN2204
RN1205
RN1202
RN1201



⑦ 2SD1554
2SD2253
2SD1556
2SD2553
2SC5143



⑧ ON4409



MEMO

SPECIFICATIONS	
TELEVISION SYSTEM	NTSC standard
CHANNEL COVERAGE	VHF: 2 through 13 UHF: 14 through 69 Cable TV: mid band (A-8 through A-1, A through I) super band (J through W) hyper band (AA through ZZ, AAA, BBB) ultra band (65 through 94, 100 through 125)
POWER SOURCE	120V AC, 60Hz
AUDIO POWER	5W + 5W
SPEAKER TYPE	2-3/8 x 4-3/4 inches (60 x 120 mm)
VIDEO/AUDIO TERMINALS	S-VIDEO INPUT Y: 1V (p-p), 75 ohm, negative sync. C: 0.286V (p-p) (burst signal), 75 ohm VIDEO/AUDIO INPUT VIDEO: 1V(p-p), 75 ohm, negative sync. AUDIO: 150mV(rms) (30% modulation equivalent, 47k ohm) ColorStream™ (Color Difference) VIDEO/AUDIO INPUT Y: 1V (p-p), 75 ohm Cr: 0.7V (p-p), 75 ohm Cb: 0.7V (p-p), 75 ohm AUDIO: 2V (p-p), 1 kohm
DIMENSIONS	Width 972 mm Height 753 mm Depth 615 mm
MASS	95.0 kg

* Please refer to owner's manual in detail.

TOSHIBA CORPORATION
1-1, SHIBAURA 1-CHOME, MINATO-KU, TOKYO 105-8001, JAPAN

SCHEMATIC DIAGRAM

MODEL : 32AF61 Chassis No. TAC0120

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" ON THE MANUAL FOR THIS MODEL.

CAUTION: The international hazard symbols "⚠" in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. The mounting position of replacements is to be identical with originals. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE on the MANUAL for this model. Do not degrade the safety of the receiver through improper servicing.

NOTE:

1. RESISTOR Resistance is shown in ohm [K = 1.000, M = 1.000.000]. All resistors are 1/6W and 5% tolerance carbon resistor, unless otherwise noted as the following marks.
   1/2R = Metal or Metal oxide of 1/2 watt 1/2S = Carbon compsistion of 1/2 watt
   1RF = Fuse resistor of 1 watt 10W = Cement of 10 watt
   K = +10% G = +2% F = +1%
2. CAPACITOR Unless otherwise noted in schematic, all capacitor values less than 1 are expressed in μF, and the values more than 1 in pF.
   All capacitors are ceramic 50V, unless otherwise noted as the following marks.
   —|(+)|— Electolytic capacitor —|(M)|— Mylar capacitor
3. The parts indicated with " ⚠ " have special characteristics, and should be replaced with identical parts only.
4. Voltages read with DIGITAL MULTI-METER from point indicated to chassing ground, using a color bar signal with all controls at normal, line voltage 120 volts.
5. Waveforms are taken receiving color bar signal with enough sensitivity.
6. Voltage reading shown are nominal values and may vary ±20% except H.V.

■ SCHEMATIC DIAGRAM STRUCTURE:

- SIGNAL Circuit
- POWER / DEF Circuit
- 3L DIGI-COMB / CRT-D VM Circuit

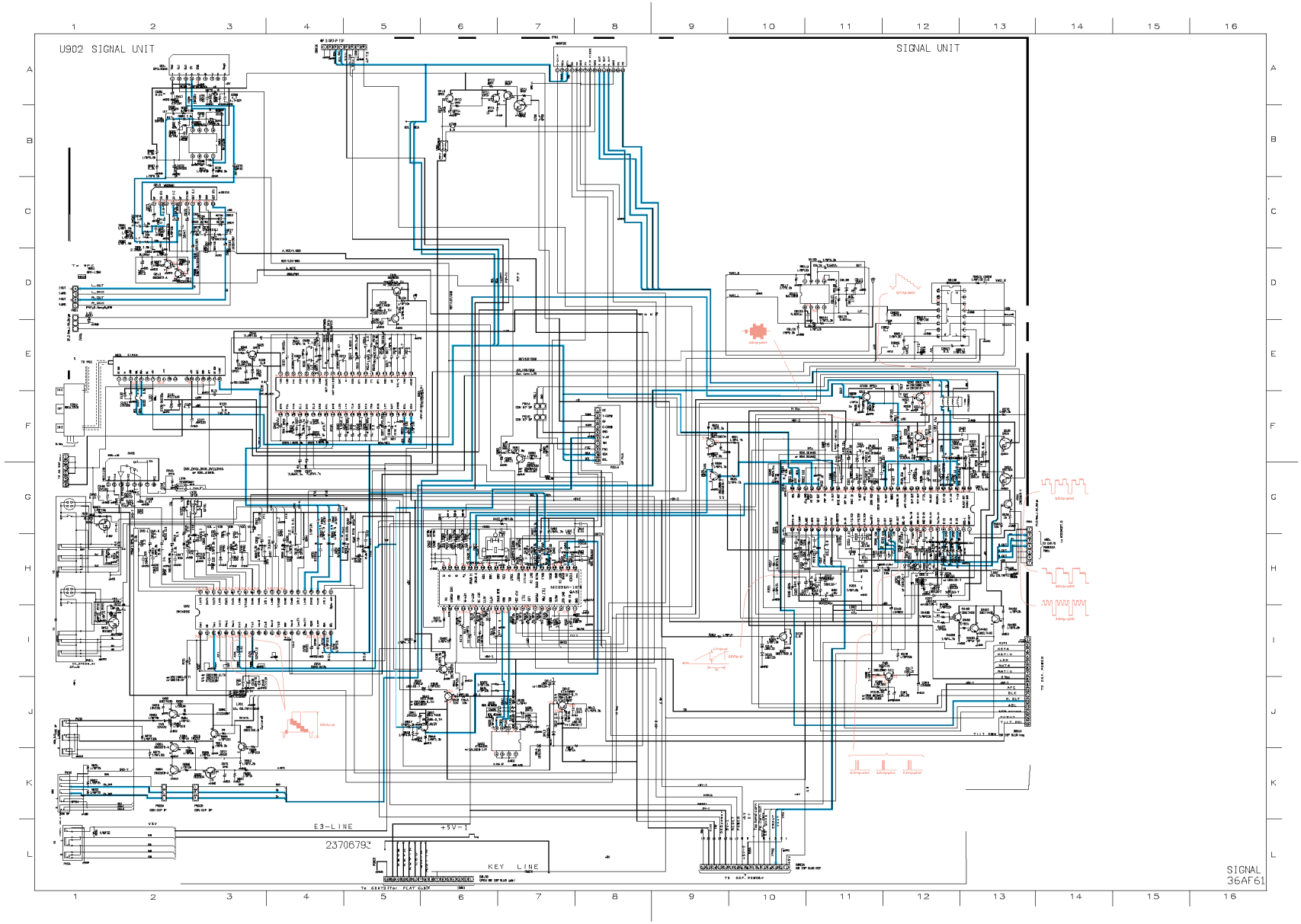
SCHEMATIC DIAGRAM **MODEL : 36AF61** Chassis No. TAC012C

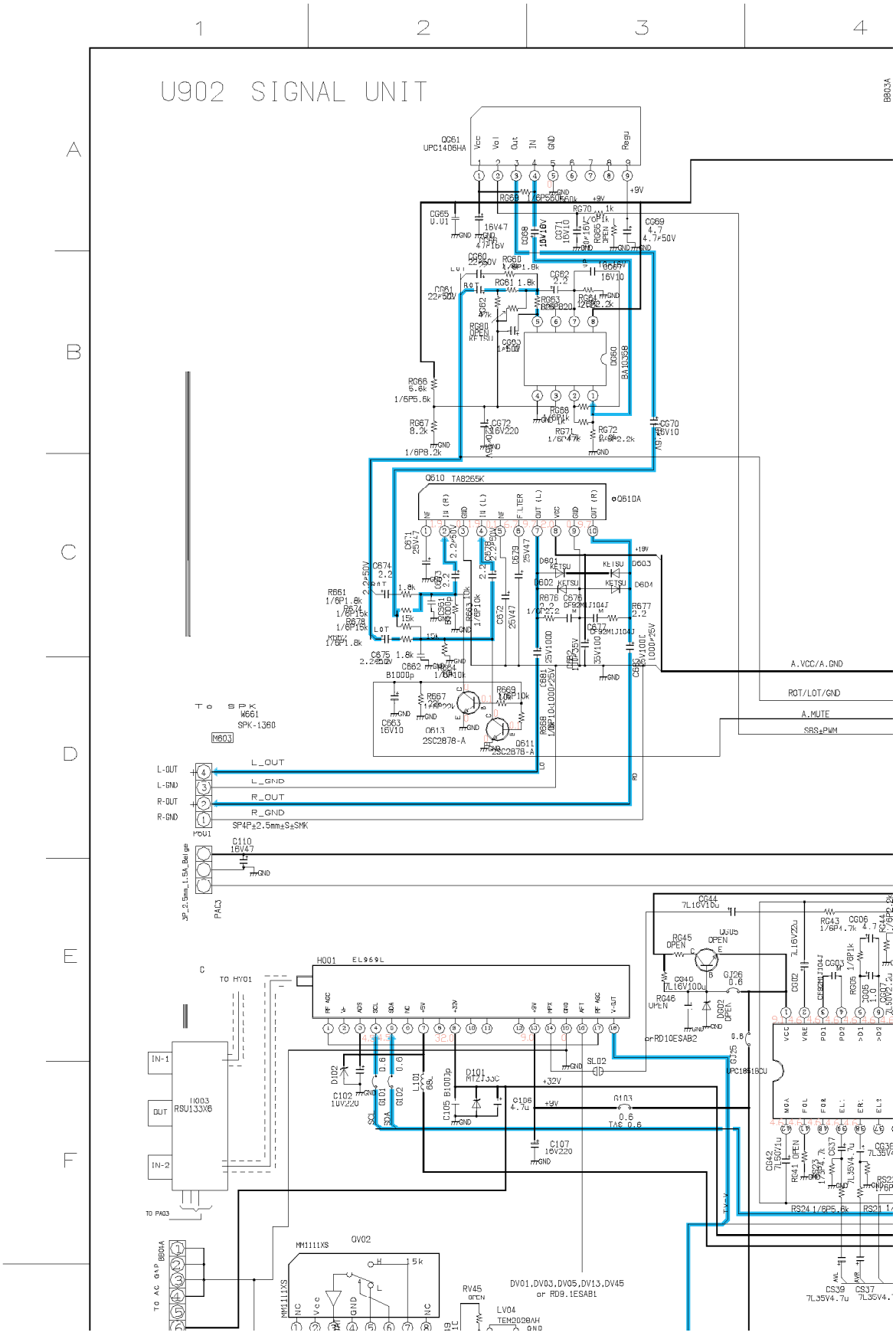
WARNING BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" ON THE MANUAL FOR THIS MODEL.

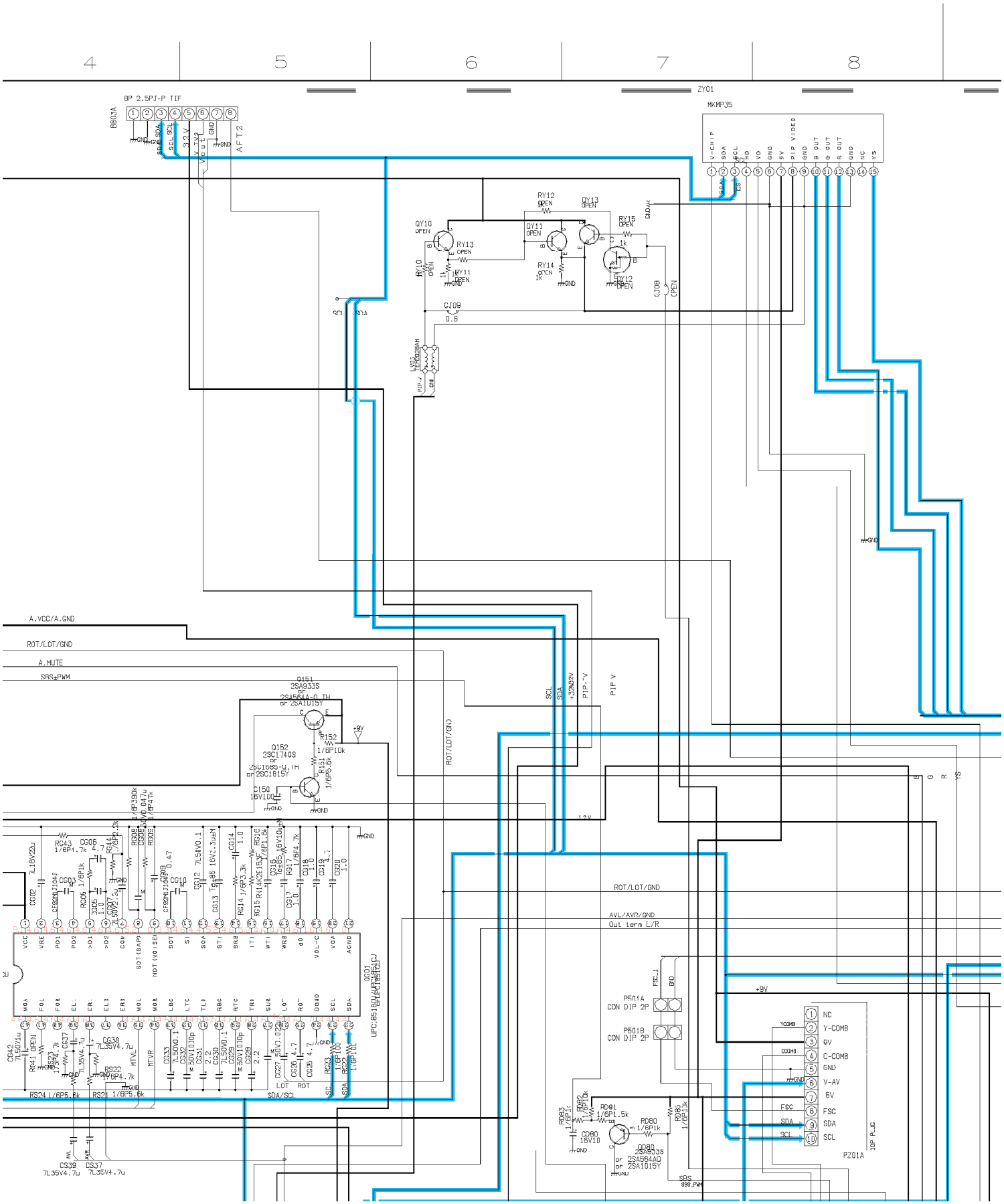
CAUTION The international hazard symbols "⚠" in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. The mounting position of replacements is to be identical with originals. Before repacing any of these components, read carefully the PRODUCT SAFETY NOTICE on the MANUAL for this model. Do not degrade the safety of the receiver through improper servicing.

NOTE:

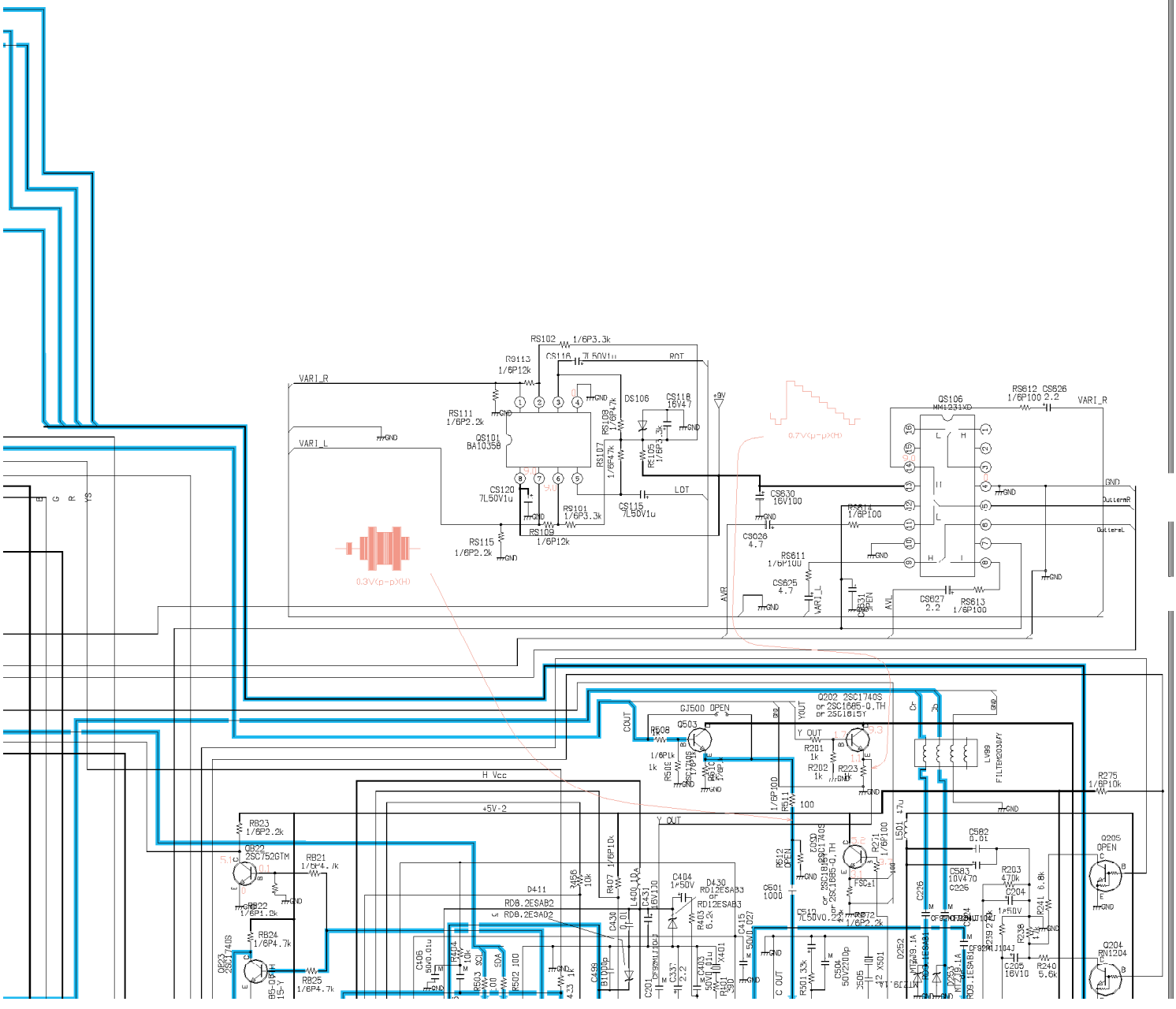
1. RESISTOR Resistance is shown in ohm [K = 1,000, M = 1,000,000]. All resistors are 1/6W and 5% tolerance carbon resistor, unless otherwise noted as the following marks.
   1/2R = Metal or Metal oxide of 1/2 watt 1/2S = Carbon composition of 1/2 watt
   1RF = Fuse resistor of 1 watt 10W = Cement of 10 watt
   K = ±10% G = ±2% F = ±1%
2. CAPACITOR Unless otherwise noted in schematic, all capacitor values less than 1 are expressed in μF, and the values more than 1 in pF.
   All capacitors are ceramic 50V, unless otherwise noted as the following marks.
   ⊣|⊢ Electolytic capacitor ⊣|⊢ Mylar capacitor
3. The parts indicated with " ⚠ " have special characteristics, and should be replaced with identical parts only.
4. Voltages read with DIGITAL MULTI-METER from point indicated to chassing ground, using a color bar signal with all controls at normal, line voltage 120 volts.
5. Waveforms are taken receiving color bar signa with enough sensitivity.
6. Voltage reading shown are nominal values and may vary ±20% except H.V.

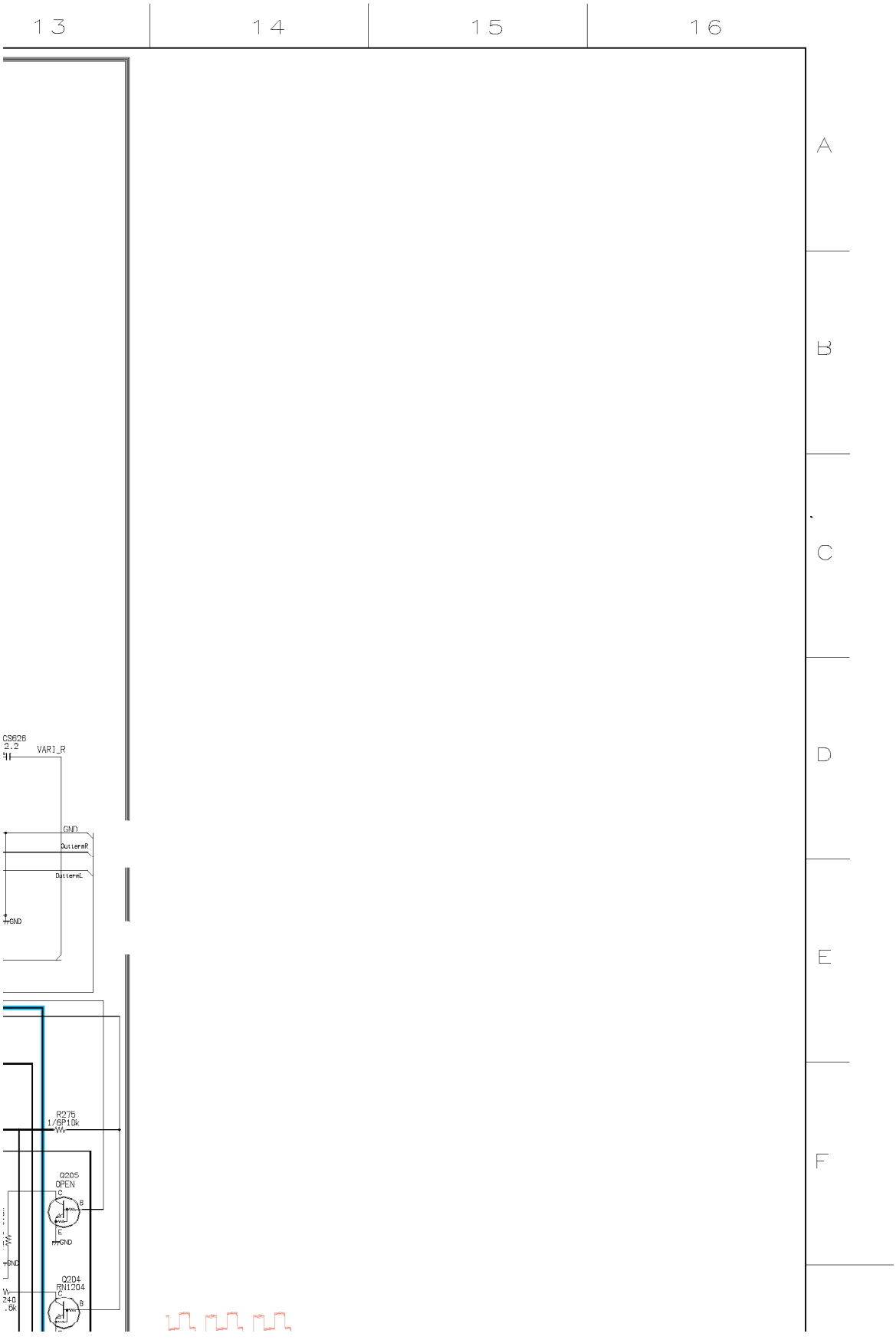


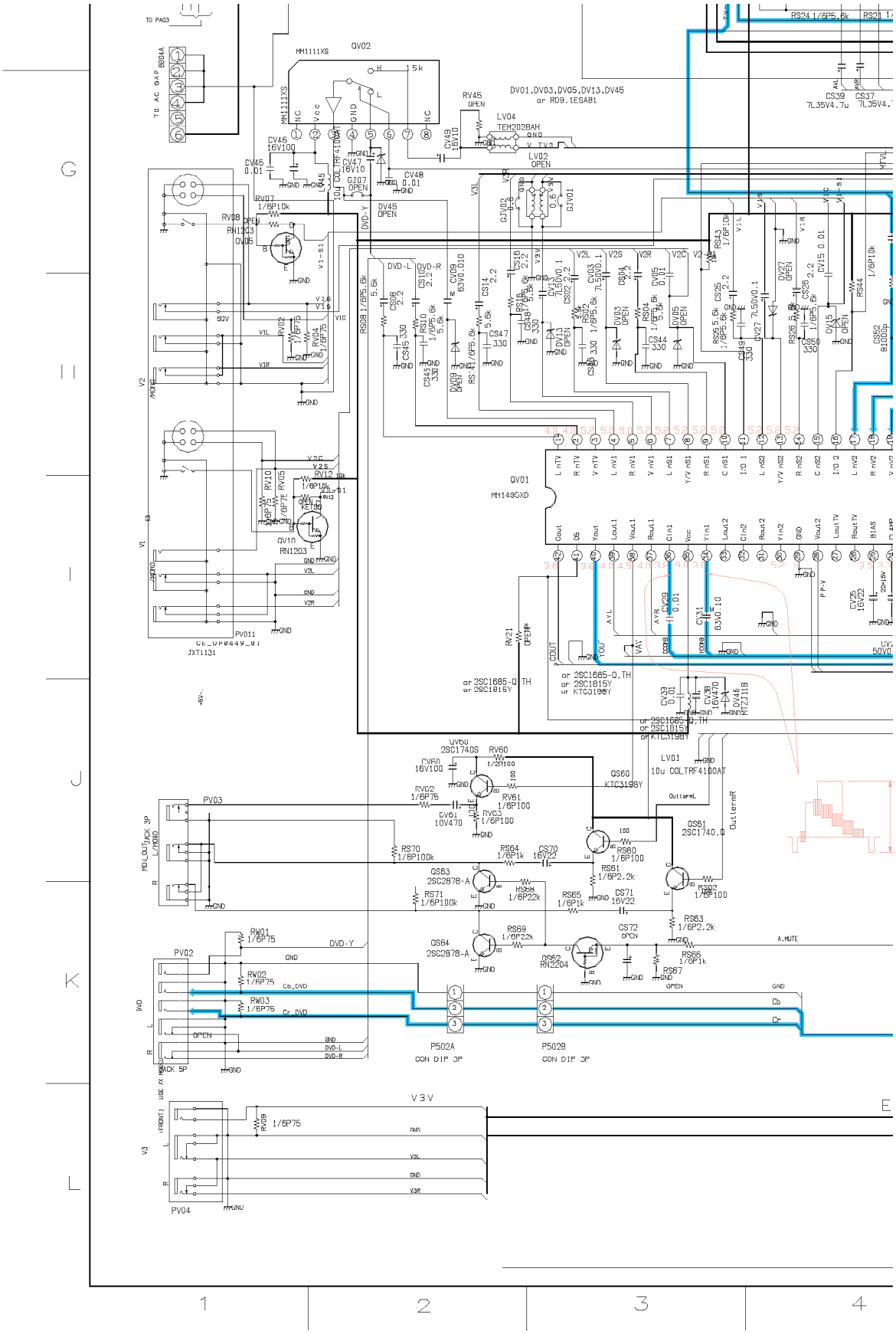

U902 SIGNAL UNIT
1
2
3
4
A
B
C
D
E
F
Q610 TA8255K
Q610A
A.VCC/A.GND
ROT/LOT/GND
A.MUTE
SRS±PWM
To SPK
W661
SPK-1360
M603
L_OUT
L_GND
R_OUT
R_GND
L-OUT
L-GND
R-OUT
R-GND
SP4P±2.5mm±S±SMK
H001 EL969L
IN-1
OUT
IN-2
TO PAG3
TO AC GAP B604A
DV01,DV03,DV05,DV13,DV45
or RD9.1ESAB1
+9V
+32V
GND

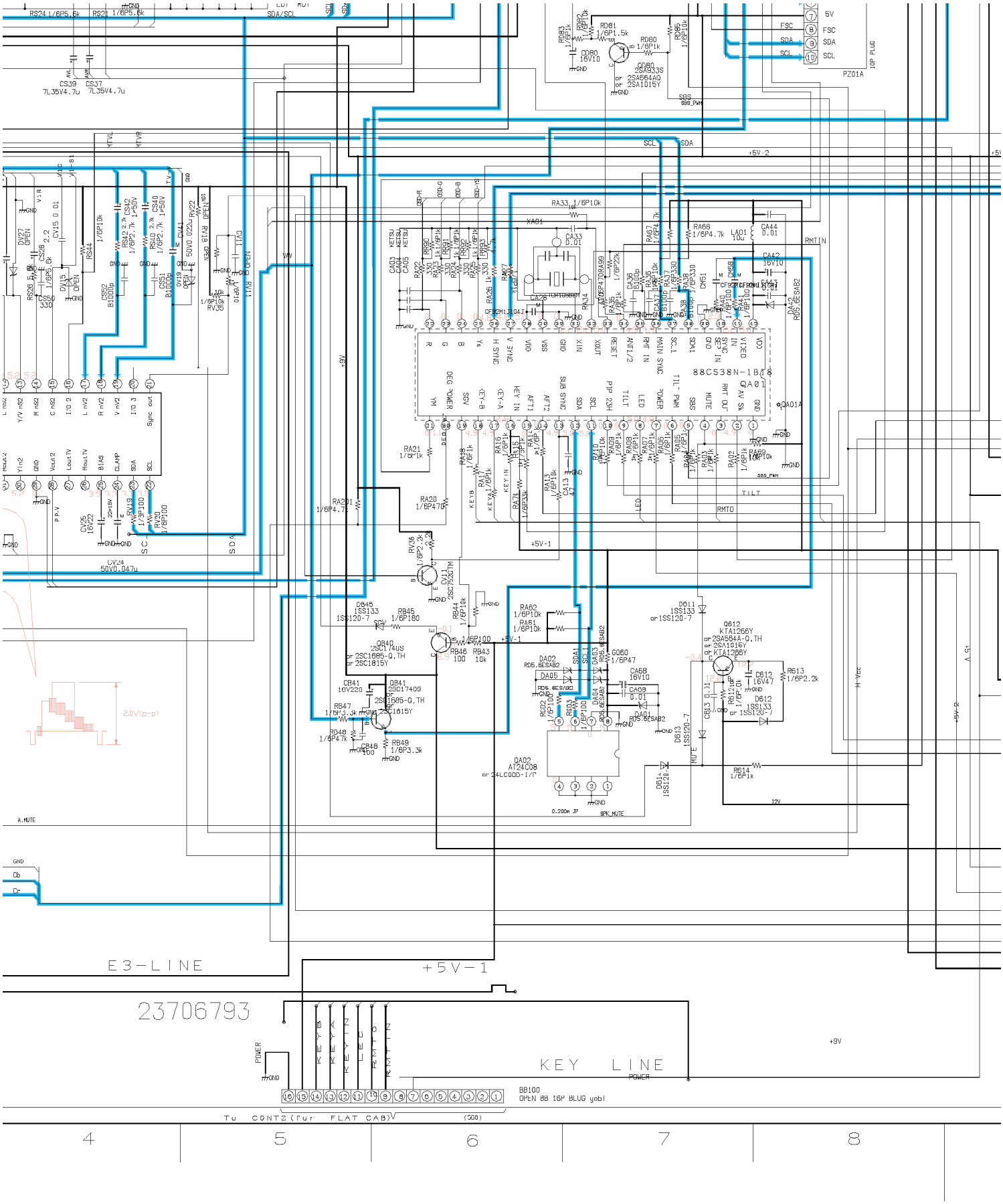

4
5
6
7
8
ZY01
BP 2.5PJ-P TIF
BB03A
MKMP35
V-CHIP
SDA
SCL
CE
VD
GND
5V
P I P VIDEO
GND
B OUT
G OUT
R OUT
GND
NC
YS
RY12 OPEN
RY13 OPEN
RY15 OPEN
QY10 OPEN
QY11 OPEN
RY13 OPEN
RY14 OPEN
RY11 OPEN
QY12 OPEN
GJ08 OPEN
GJ09 0.6
A.VCC/A.GND
ROT/LOT/GND
A.MUTE
SRS+PWM
Q151 2SA933S or 2SA564A-O TH or 2SA1015Y
Q152 2SC1740S or 2SC1815Y
R150 1/6P10k
R151 1/6P5.6k
C150 16V10
+9V
12V
SCL
SDA
+3.3V
P I P -V
P I P V
ROT/LOT/GND
AVL/AVR/GND
Out Term L/R
P501A CON DIP 2P
P501B CON DIP 2P
NC
Y-COMB
0V
C-COMB
GND
V-AV
5V
FSC
SDA
SCL
10P PLUG
PZ01A
RD81 1/6P1.5k
RD80 1/6P1k
CD80 16V10
2SA933S or 2SA564AQ or 2SA1015Y
SRS SRS_PWM
SDA/SCL
LOT ROT
CS39 7L35V4.7u
CS37 7L35V4.7u
RS24 1/6P5.6k
RS21 1/6P5.6k
RG23 1/6P4.7k
RG22 1/6P4.7k
RG24 OPEN
UPC:B518GV-E1-A

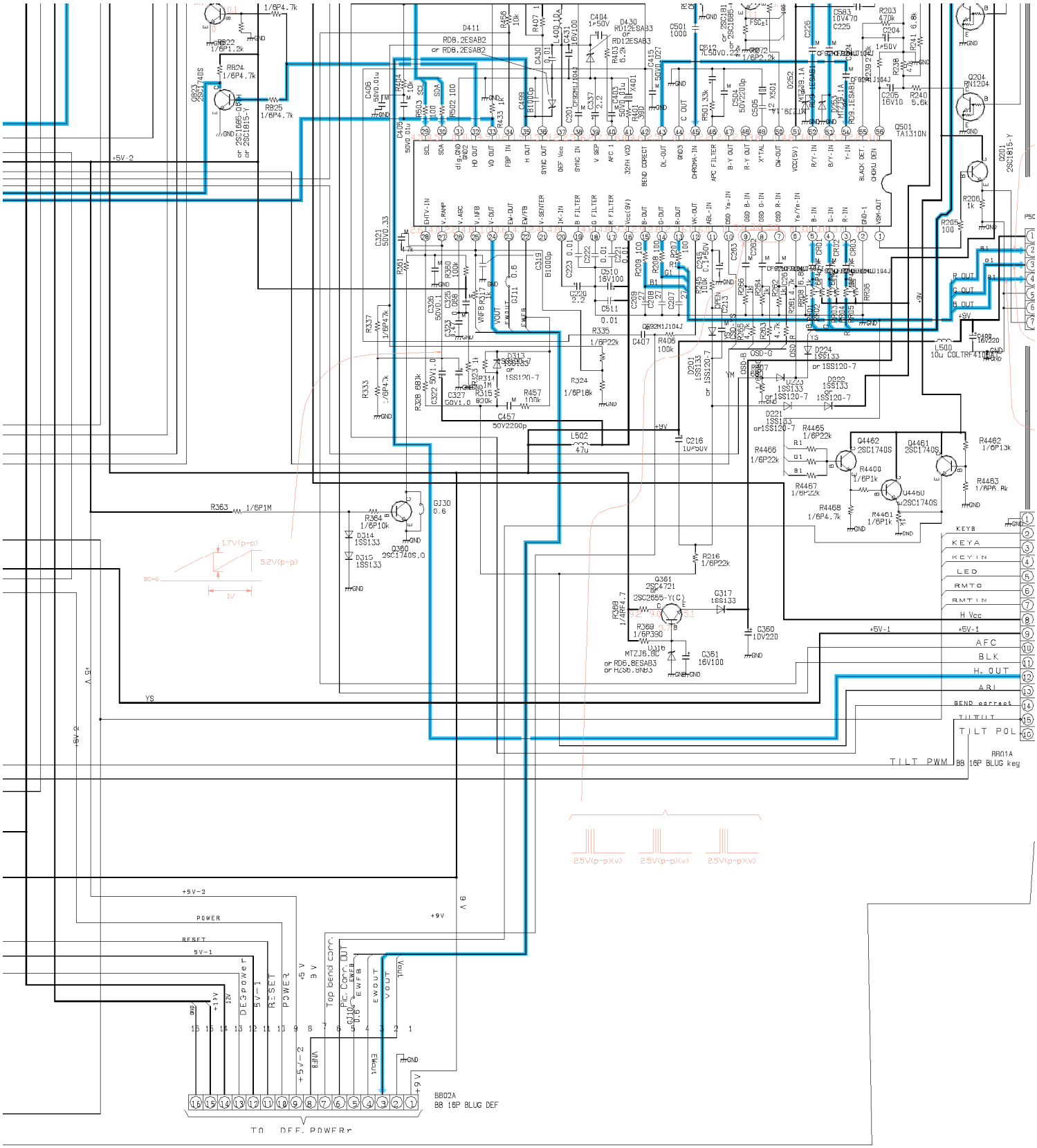
SIGNAL UNIT

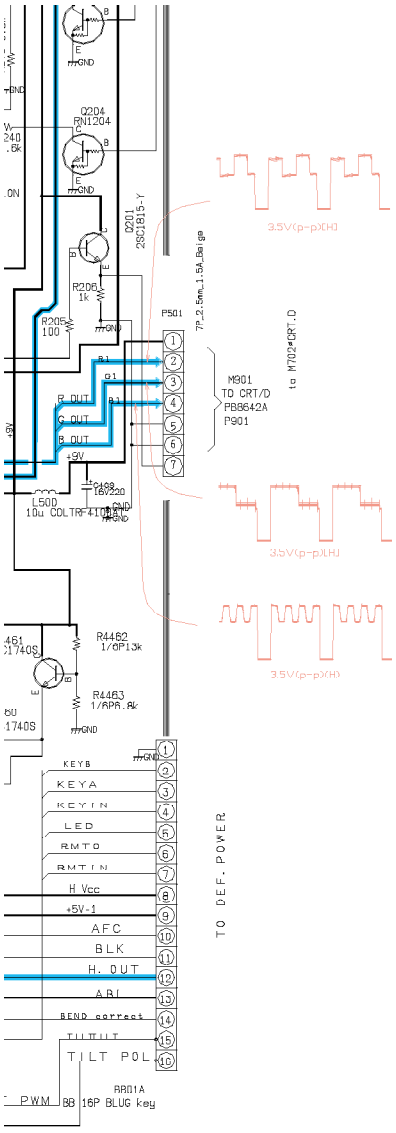

VARI_R
VARI_L
RS102 1/6P3.3k
RS113 1/6P12k
CS118 7L50V1u
RDT
DS106
CS118 16V47
RS111 1/6P2.2k
QS101 BA10358
RS109 1/6P47k
RS107 1/6P47k
RS105 1/6P3.3k
CS120 7L50V1u
RS101 1/6P3.3k
CS115 7L50V1u
LDT
RS109 1/6P12k
RS115 1/6P2.2k
0.3V(p-p)(H)
+9V
0.7V(p-p)(H)
QS106 MM1231XD
RS612 CS626 1/6P100 2.2
CS630 16V100
RS614 1/6P100
CS626 4.7
RS611 1/6P10U
CS625 4.7
CS627 2.2
RS613 1/6P100
AVR
AVL
GND
OutternR
OutternL
H Vcc
+5V-2
GJ500 OPEN
Q503
R508 1/6P1k
R506 1k
R507 1/6P1k
COUT
YOUT
Y OUT
R201 1k
R202 1k
R223
R511 1/6P100
100
L501 47u
R275 1/6P10k
RB23 1/6P2.2k
QB22 2SC752GTM
RB21 1/6P4.7k
RB22 1/6P1.8k
RB24 1/6P4.7k
QB23 2SC1740S
RB25 1/6P4.7k
D411
RD8.2ESAB2
RD8.2E3AD2
R407 1/6P10k
L400 10u
C431 16V120
C404 1/50V
D430 RD12ESAB3
R403 6.2k
C415 50V0.027
C436 0.01
C406 0.01u
R404 10k
R503 XCL
R502 100
C499 1000p
C401 DF3M1J105
C433 2.2
C403 50V0.01u
R401 1X4D1
R501 3.3k
C DUT
C501 1000
R512 OPEN
Q202 2SC1740S or 2SC1685-O,TH or 2SC1815Y
R271 1/6P100
R272 1/6P2.2k
C505 50V2200p
C582 0.01
C583 10V470
C226
R203 470k
Q204 RN1204
R241 6.8k
R238 1k
C206 16V10
R240 5.6k
Q205 OPEN
D252 MTZ9.1A
D253 MTZ6.8A
D254 MTZ6.8A
FILTER430A7
L198


13
14
15
16
A
B
C
D
E
F
CS626
2.2
VARI_R
GND
OutTermR
OutTermL
GND
R275
1/6P10k
Q205
OPEN
GND
Q204
RN1204
GND


QV02
MM1111XS
TO AC GAP
P804A
DV01,DV03,DV05,DV13,DV45
or RD9.1ESAB1
LV04
TEM202BAH
LV02
OPEN
DV45
OPEN
QV01
MM1493XD
PV03
PV02
PV04
P502A
CON DIP 3P
P502B
CON DIP 3P
QS60
KTC3198Y
QS61
2SC1740.D
QS62
RN2204
QS63
2SC2878-A
QS64
2SC2878-A
V3V
A.MUTE
OPEN
GND
Cb
Cr
OuterL
OuterR


E3-LINE
+5V-1
23706793
KEY LINE
POWER
KEY IN
KEY IN
LED
REMOTE IN
+9V
BB100
OPEN BB 16P BLUG yobi
To CONT2(Tur FLAT CAB)
(500)
4
5
6
7
8

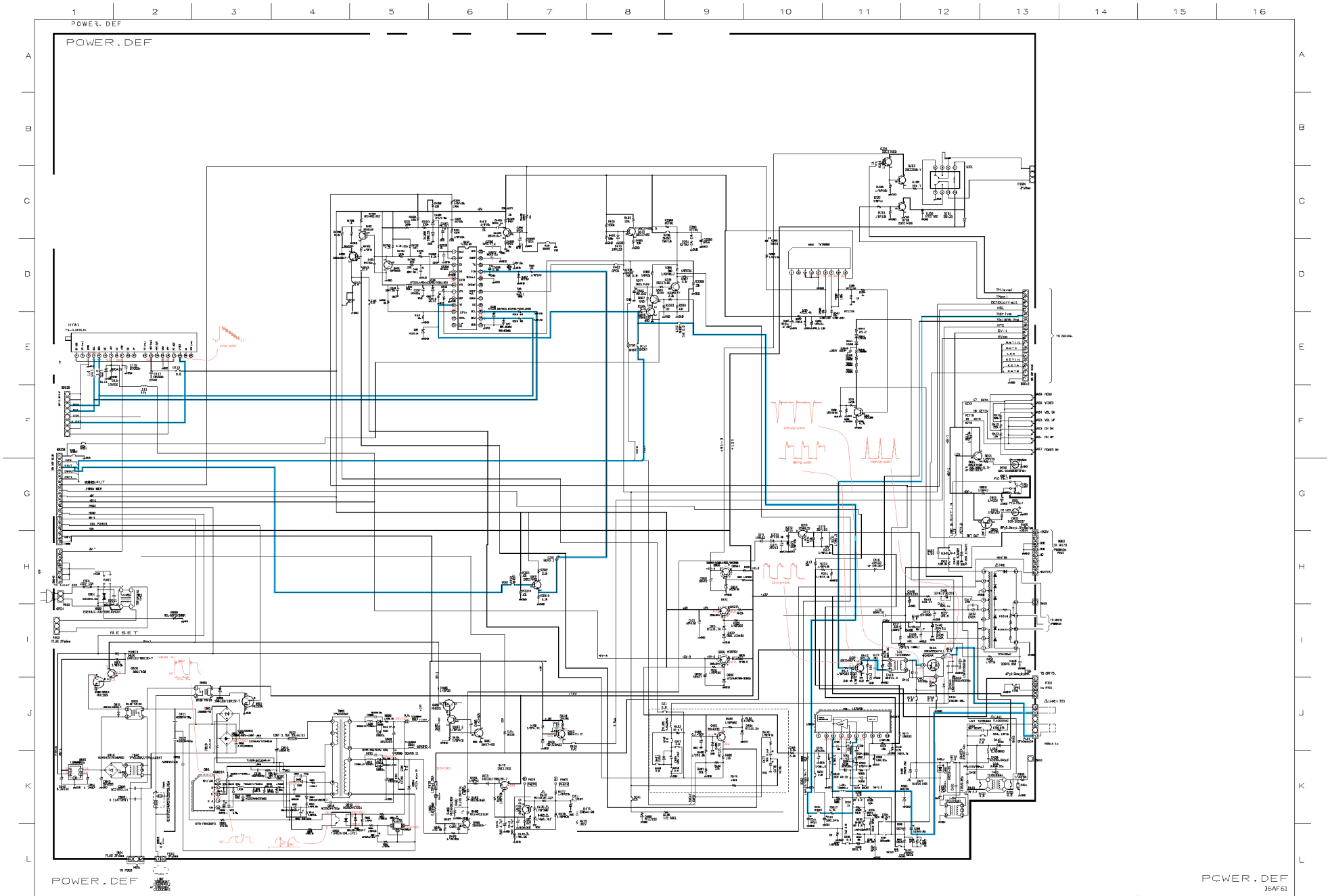

+5V-2
+5V-1
+9V
GND
POWER
RESET
5V-1
DEGPower
RESET
POWER2
+5V
9V
Top bend corr.
Pic. Corr. OUT
EWFB
EWOUT
VOUT
VWF
+5V-2
+9V
BB02A
BB 16P BLUG DEF
TO DEF. POWER
BA01A
BB 16P BLUG key
TILT PWM
TILT POL
KEYB
KEYA
KEYIN
LED
RMTG
RMTIN
H Vcc
AFC
BLK
H. OUT
ABL
BEND correct
TILTILT
YS
1/6P4.7k
1/6P1.2k
1/6P4.7k
1/6P4.7k
1/6P1M
1/6P10k
1/6P22k
1/6P18k
1/6P1k
1/6P13k
1/6P4.7k
1/6P1k
1/6P22k
1/6P22k
1/6P390
1/6P22k
1/6P22k
1/6P22k
1/6P4.7k
1/6P47k
1/6P47k
1/6P47

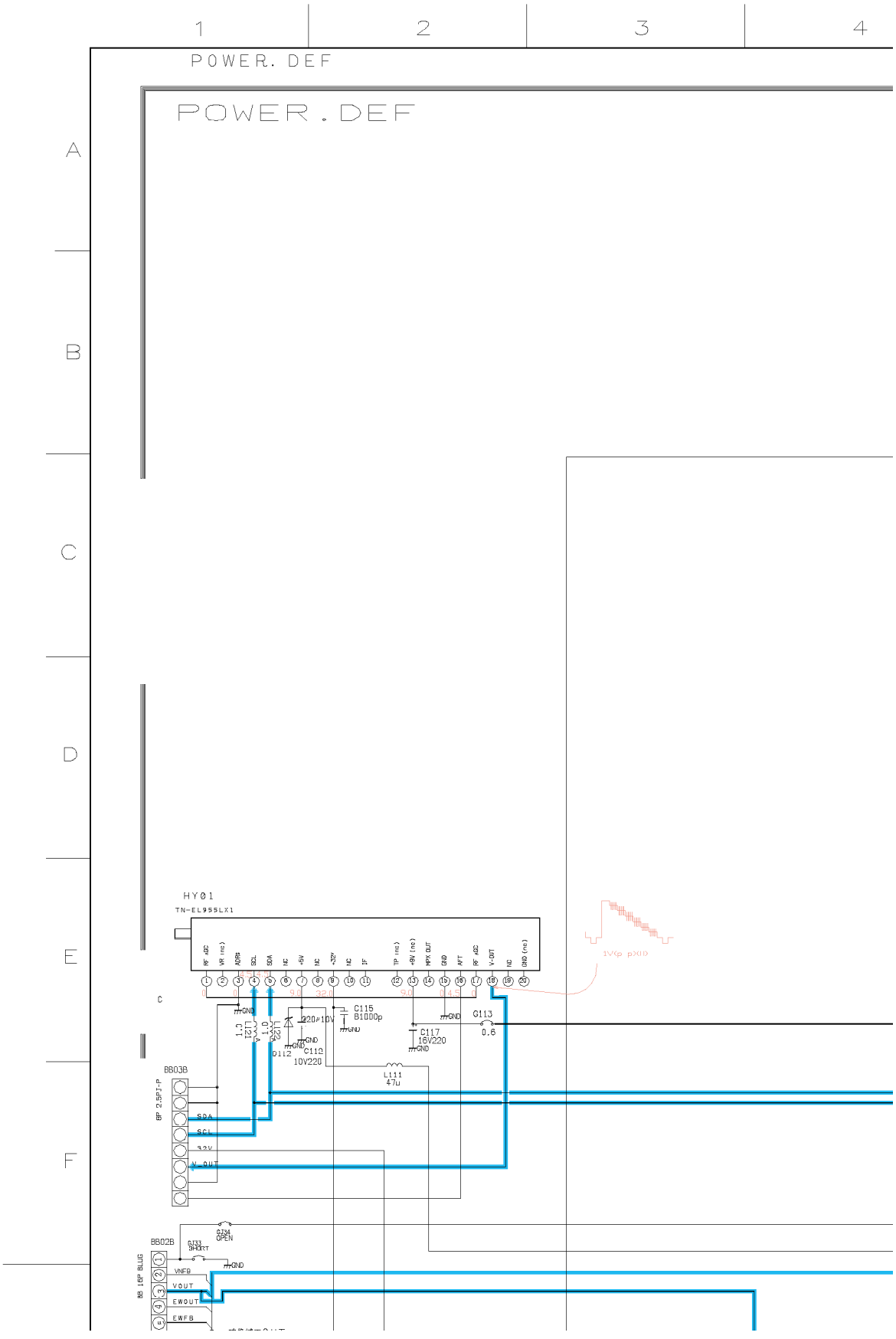


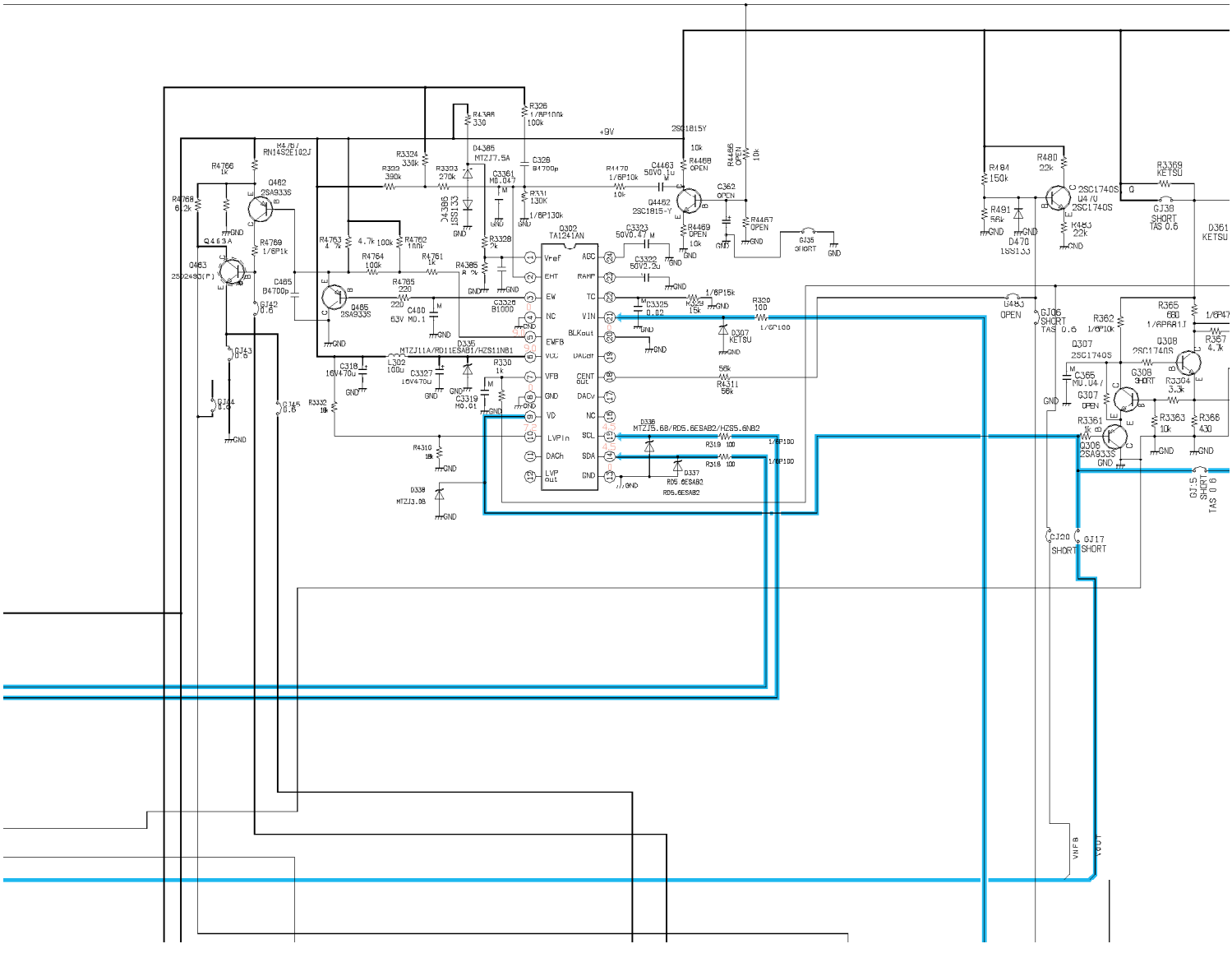
SIGNAL
36AF61

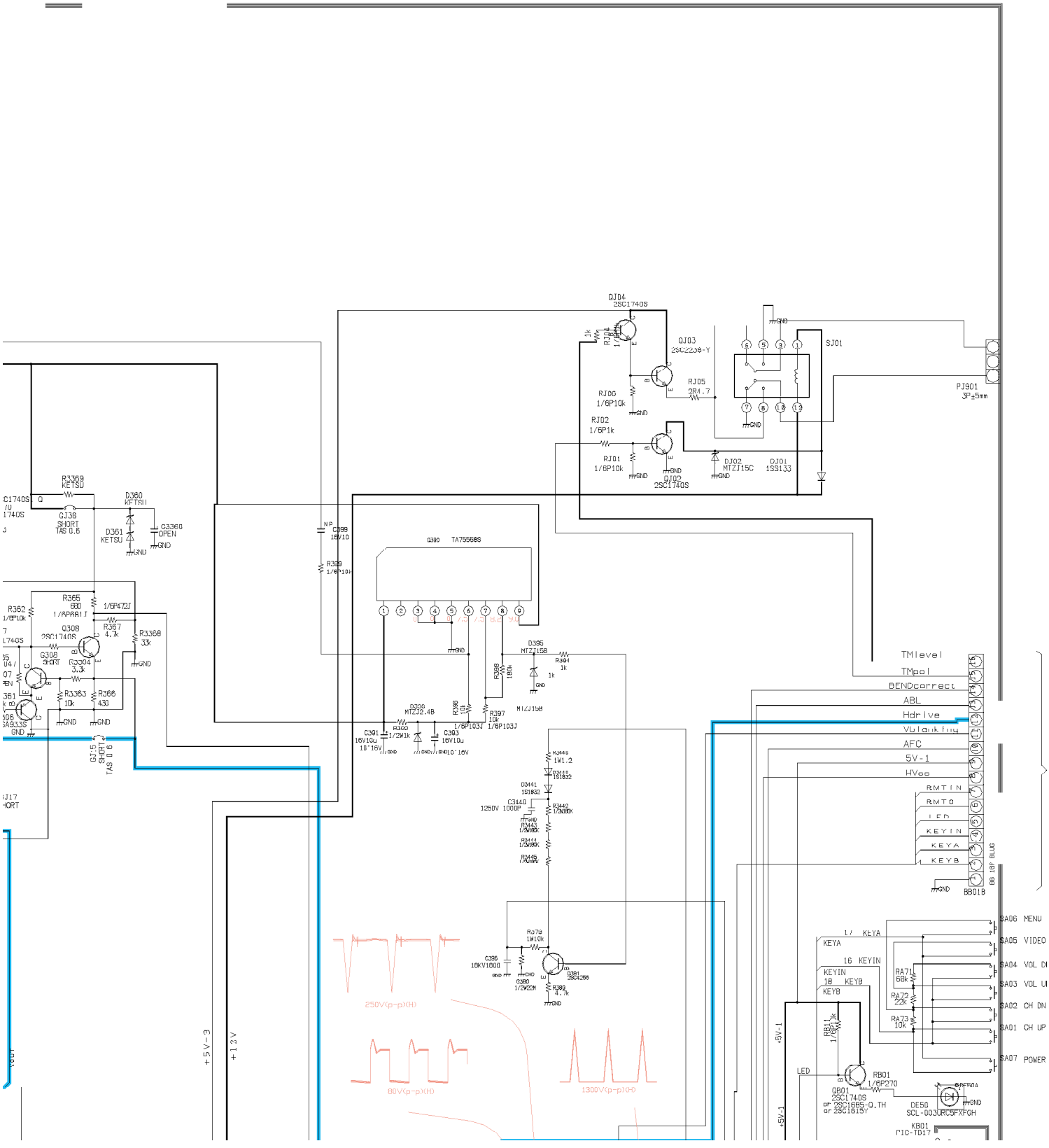
G
H
I
J
K
L

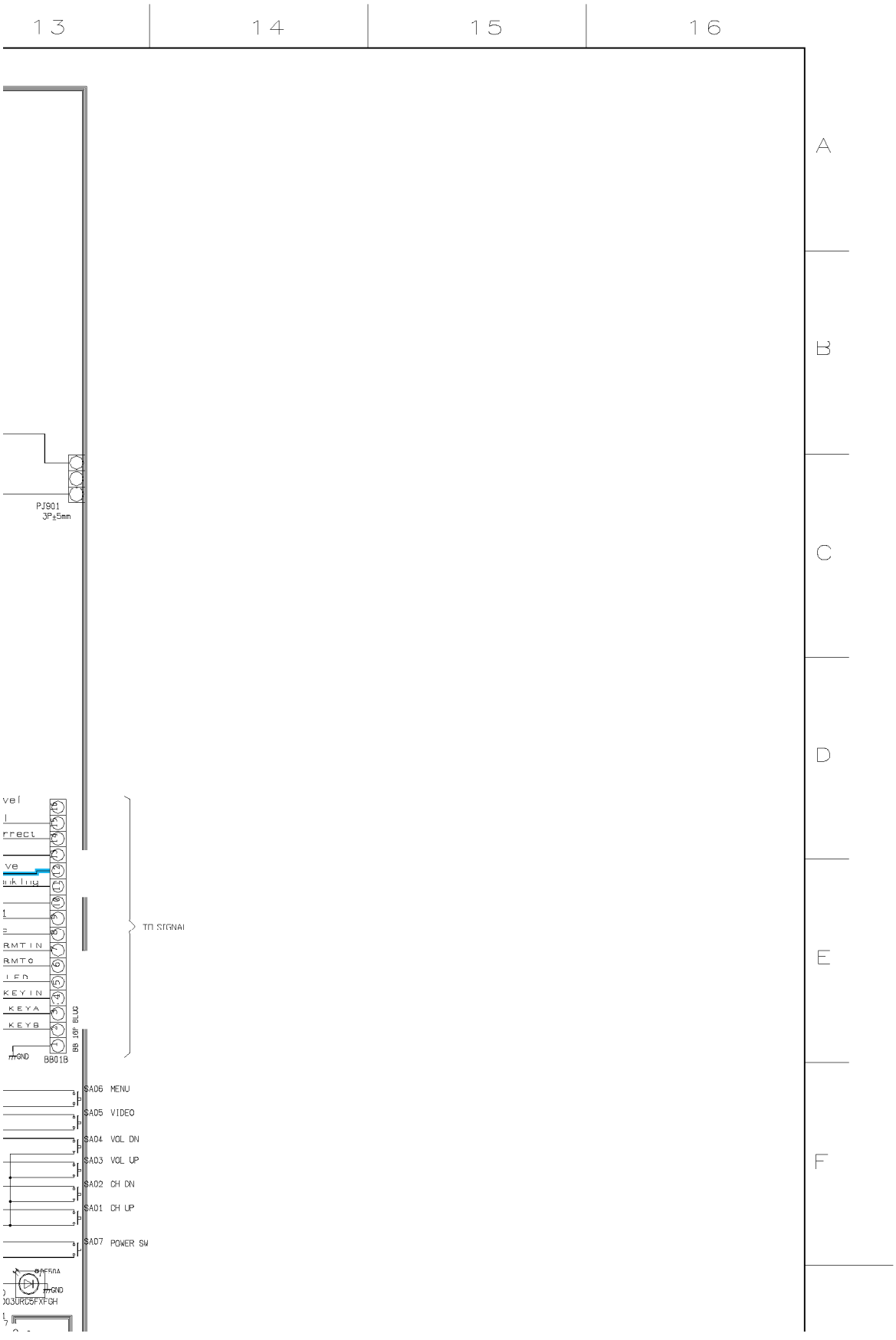
13 14 15 16

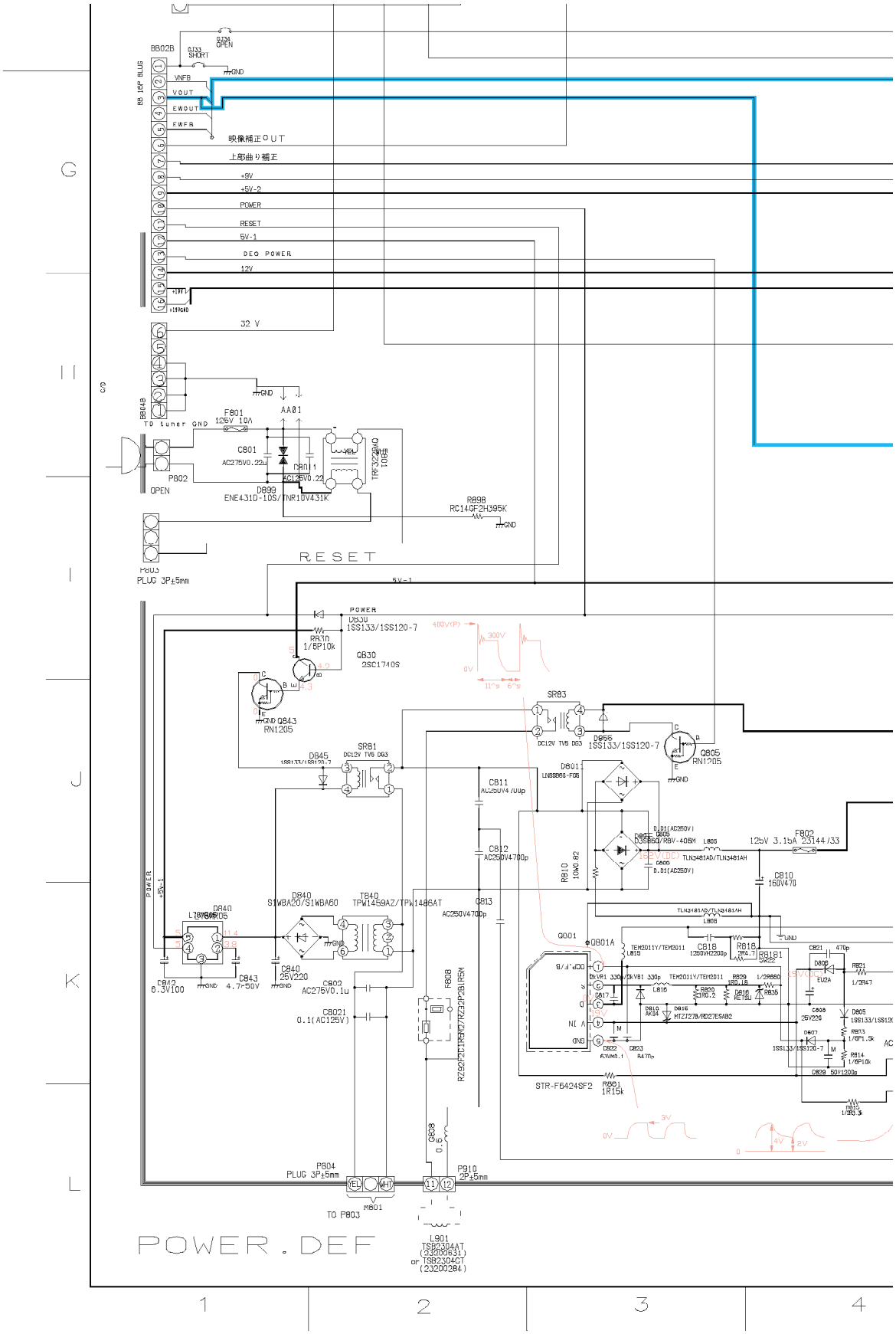

POWER.DEF
RESET
POWER.DEF
POWER.DEF
36AF61

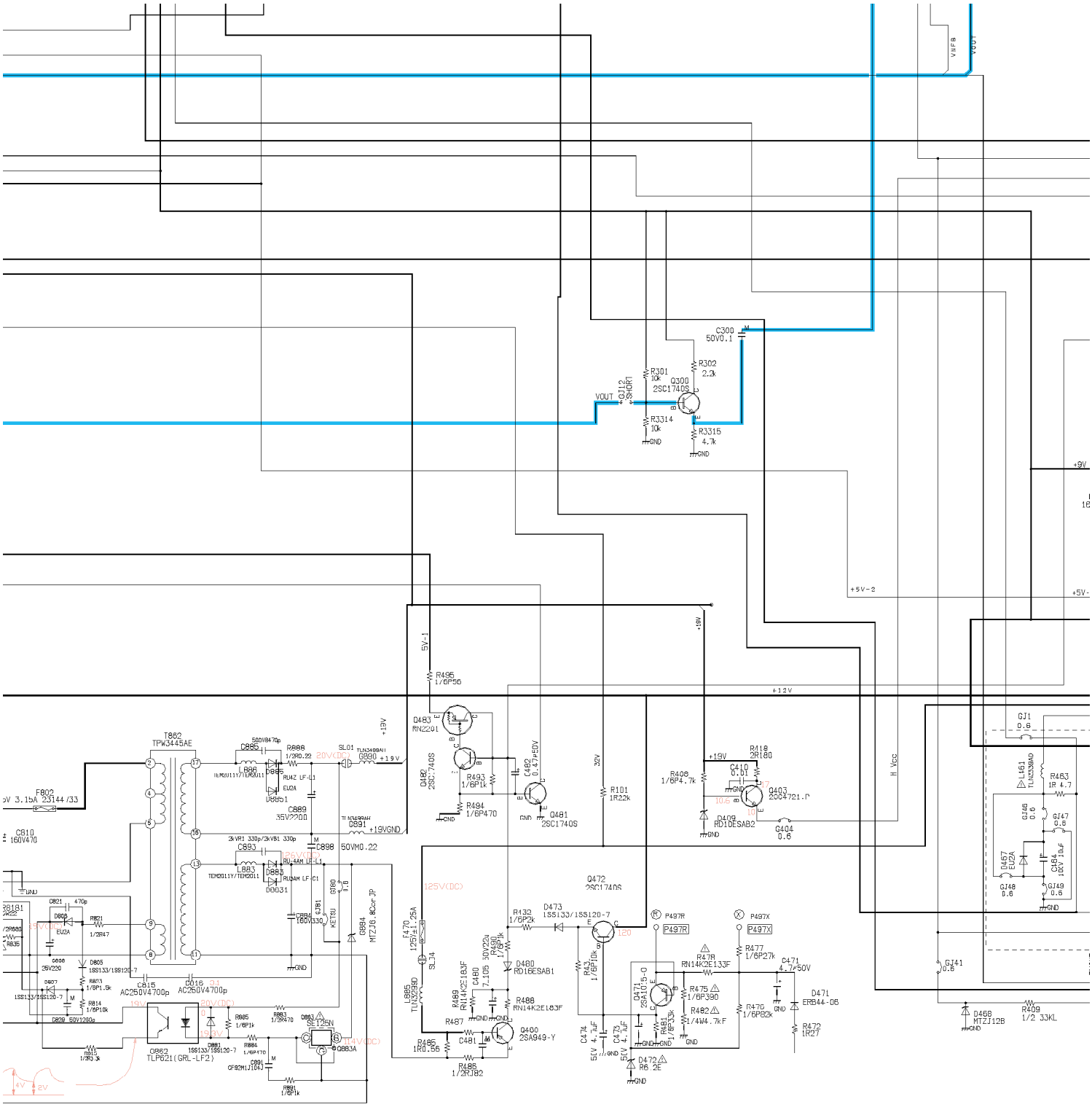

1
2
3
4
A
B
C
D
E
F
POWER. DEF
POWER . DEF
HY01
TN-EL955LX1
RF AGC
VR (ns)
ADDR
SCL
SDA
NC
+5V
NC
+32V
NC
IF
TP (ns)
+8V (ns)
MPX OUT
GND
AFT
RF AGC
V-OUT
NC
GND (ns)
C115
B1000p
C117
16V220
C113
0.6
C112
10V220
L111
47u
BB03B
BP 2.5PJ-P
SDA
SCL
32V
V_OUT
BB02B
R133
SHORT
R134
OPEN
BB 1.0P BLUE
VNFB
VOUT
EWOUT
EWFB
GND

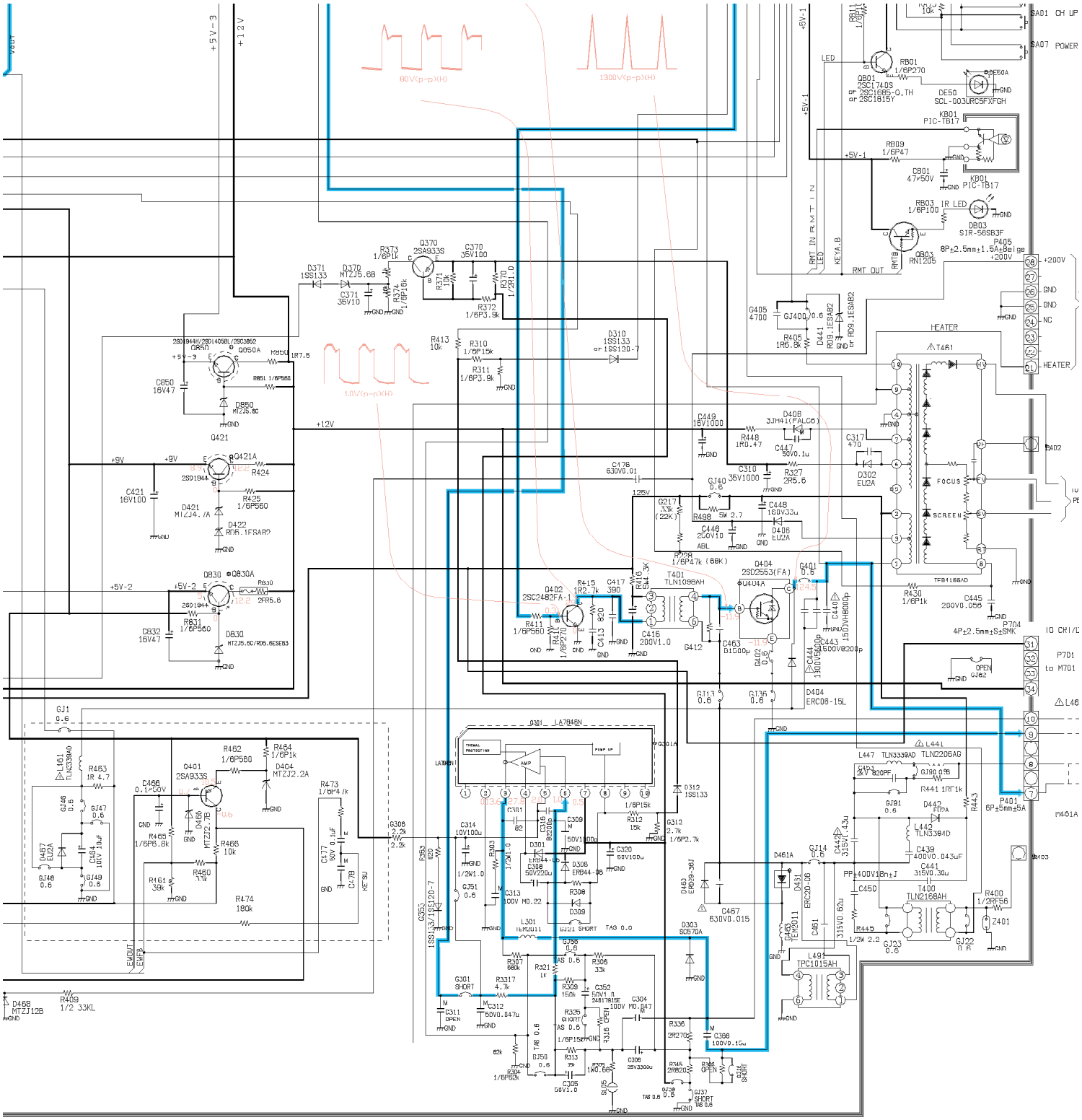

+9V
TA1241AN
VRef
AGC
EHT
RAMP
EW
TC
NC
VIN
BLKout
EWFB
VCC
DACout
VFB
CENT
GCC
GND
DACv
VD
NC
LVPIn
SCL
DACh
SDA
LVP out
GND
2SC1815Y
2SC1740S
2SA933S
2SC1815-Y
MTZJ7.5A
MTZJ11A/RD11ESAB1/HZS11NB1
MTZJ5.6B/RD5.6ESAB2/HZS5.6NB2
RD5.6ESAB2
MTZJ3.0B
1SS133
1SS133J
TA7805F
TA7809F
TA7812F
TA7815F
KETSU
SHORT
OPEN
VHFB
VOUT

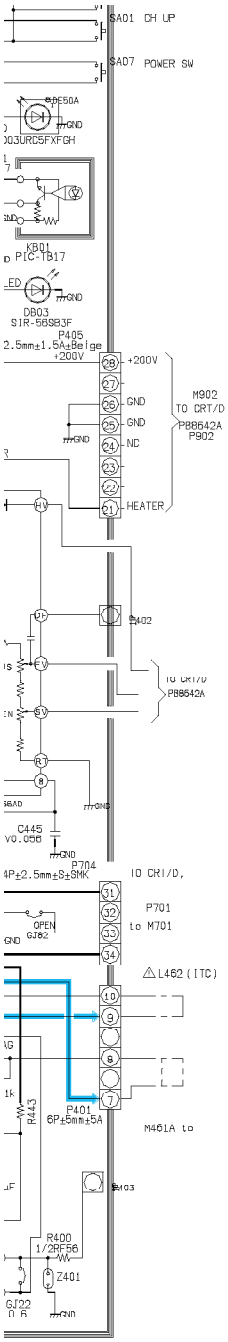

TMlevel
TMpol
BENDcorrect
ABL
Hdrive
Vblanking
AFC
5V-1
HVcc
RMTIN
RMTO
LED
KEYIN
KEYA
KEYB
B901B
SA06 MENU
SA05 VIDEO
SA04 VOL DI
SA03 VOL UI
SA02 CH DN
SA01 CH UP
SA07 POWER
PJ901
3P±5mm
SJ01
250V(p-p)(H)
80V(p-p)(H)
1300V(p-p)(H)
+5V-3
+12V
+5V-1
LED


13
14
15
16
A
B
C
D
E
F
PJ901
3P±5mm
TO SIGNAL
BB01B
SAD6 MENU
SAD5 VIDEO
SAD4 VOL DN
SAD3 VOL UP
SAD2 CH DN
SAD1 CH UP
SAD7 POWER SW


BB02B
8P 1SP PLUG
GND
VNFB
VOUT
EWOUT
EWFB
映像補正ＯＵＴ
上部曲り補正
+9V
+5V-2
POWER
RESET
5V-1
DEG POWER
12V
32 V
BB04B
TO tuner GND
F801
125V 10A
AA01
C801
AC275V0.22u
C811
AC125V0.22
D899
ENE431D-10S/TNR10V431K
P802
OPEN
R898
RC14GF2H395K
GND
RESET
P803
PLUG 3P±5mm
5V-1
POWER
D830
1SS133/1SS120-7
RR30
1/8P10k
Q830
2SC1740S
Q843
RN1205
SR83
D856
1SS133/1SS120-7
Q805
RN1205
SR81
D845
D811
LNBB868-FOB
C811
AC250V4700p
C812
AC250V4700p
C813
AC250V4700p
R810
10W0.82
F802
125V 3.15A 23144/33
C810
160V470
D840
S1WBA20/S1WBA60
T840
TPW1459AZ/TPW1486AT
C840
25V2200
C842
6.3V100
C843
4.7+50V
C802
AC275V0.1u
C8021
0.1(AC125V)
R808
RZ2P20R5M
C808
0.5
Q801
D801A
STR-F6424SF2
R8051
1R15k
P804
PLUG 3P±5mm
P810
2P±5mm
TO P803
L901
TSB2304AT
(232006J1)
or TSB2304CT
(232200284)
POWER.DEF


T862
TPW3445AE
F802
CB10
160V470
C855
560V8470p
R888
1/2R0.22
20VDC
SL01
TLN3498A(
G890
+19V
L886
D885
RU4Z LF-L1
EU2A
D8851
C889
35V2200
+19VGND
C893
3kVR1 330p/3kVB1 330p
C898
50VM0.22
L883
D883
RU4AM LF-IC1
D8831
CB94
160V330
GB80
1.6
GB84
MTZJ6.8Cor JP
C821
470p
D808
EU2A
R821
1/2R47
D805
1SS133/1SS120-7
R871
1/6P1.5k
R814
1/6P10k
C839
50V1200p
C815
AC250V4700p
C816
AC250V4700p
CB62
TLP621(GRL-LF2)
R883
1/2R470
R885
1/6P1k
R884
1/6P470
C891
CF92M1J104J
R891
1/6P1k
SE125N
GB83A
125VDC
19V
5V
4V
2V
Q483
RN2201
R495
1/6P56
5V-1
Q482
2SC1740S
R493
1/6P1k
R494
1/6P470
C492
0.47P50V
Q481
2SC1740S
R101
1R22k
32V
+19V
R406
1/6P4.7k
R418
2R180
C410
0.01
Q403
2SD4721.0
D409
RD10ESAB2
G404
0.6
H Vcc
+12V
GJ1
0.6
L461
TLN3398AD
R463
1R 4.7
G446
0.6
G47
0.6
D467
EU2A
C464
10V 10uF
GJ48
0.6
GJ49
0.6
GJ141
0.6
D468
MTZJ12B
R409
1/2.33KL
Q472
2SC1740S
D473
1SS133/1SS120-7
R430
1/6P2k
R490
1/6P1k
30V22u
D480
RD18ESAB1
R488
RN14K2E183F
Q400
2SA949-Y
R487
R489
RN14K2E183F
C480
7.105
R485
1R0.56
C481
R486
1/2RJ82
R43
1/6P10k
C474
4.7uF
51V
C473
4.7uF
51V
Q471
2SA1015-O
R481
1/6P33k
R478
RN14K2E133F
R475
1/6P390
R482
1/4W4.7kF
P497R
P497X
R477
1/6P27k
R476
1/6P82k
C471
4.7+50V
D471
ERB44-06
R472
1R27
D472
R6.2E
+9V
+5V-2
+5V-
VOUT
VINFB
C300
50V0.1
R301
10k
R302
2.2k
Q300
2SC1740S
Q312
2SK681
R3314
10k
R3315
4.7k
GND


+5V-3
+12V
80V(p-p)(H)
1300V(p-p)(H)
+5V-1
LED
RMT IN
KEY A,B
RMT OUT
SA01 CH UP
SA07 POWER
RB01
QB01 2SC1740S
DE50
SCL-003URC5FXFGH
KB01 PIC-TB17
RB09
CB01 47n50V
RB03 IR LED
DB03 SIR-56SB3F
RB03 RN1205
P405 8P±2.5mm±1.5A±Beige
+200V
GND
NC
HEATER
T461
BA02
FOCUS
SCREEN
TFB1186AD
P704 4P±2.5mm±S±SMK
TO CRT/D
P701
to M701
M461A
P401 6P±5mm±5A
Z401
Q850
Q421
Q830
D850 MTZJ5.6C
D421 MTZJ4.7A
D422 RD5.1FSA2B
D830 MTZJ5.6C/RD5.6ESE3
C850 16V4.7
C421 16V100
C832 16V4.7
R424
R425 1/6P560
R831 1/6P560
R830 2R5.6
Q370 2SA933S
D370 MTZJ5.6B
D371 1SS133
C370 35V100
C371 35V10
R373 1/6P1k
R374 1/6P18k
R372 1/6P3.9k
R371 10k
R370 1/2W1.0
R413 10k
R310 1/6P15k
R311 1/6P3.9k
D310 1SS133 or 1SS120-7
Q402 2SC2482FA-1
Q401 2SA933S
Q404 2SD2553(FA)
T401 TLN1086AH
D404 ERC06-15L
D408 3JH41(FALC6)
D441 RD9.1ESA2
D442 RD9.1ESA2
G405 4700
GJ400 0.6
C449 16V1000
R448 1R0.47
C447 50V0.1u
C317 470
D302 EU2A
C310 35V1000
R327 2R5.6
G217 2k (22K)
R498 5W 2.7
C448 160V33u
C446 25V10
D406 EU2A
R415 1R2.7k
C417 390
R416 544.3K
C416 200V1.0
C413 820
R411 1/6P560
R412 1/6P270
C412 1000P
C440 150V4800P
C444 1000P
C443 500V8200P
C463 B1000P
G412
R430 1/6P1k
C445 200V0.056
GJ62 OPEN
GJ11 0.6
GJ36 0.6
GJ1 0.6
D461 EM401
D460 EM401
D431 ERC20-06
D463 ERB39-36J
D303 SC670A
C467 630V0.015
C450
C461
R445 1/2W 2.2
C439 400V0.043uF
C441 315V0.30u
C442 315V0.43u
C443 315V0.62u
T400 TLN2168AH
R400 1/2RF56
L491 TPC1015AH
L441 TLN2206AG
L447 TLN3339AD
C421 820PF
GJ98 0.6
R441 1R/1k
R443
D442 EU2A
GJ91 0.6
GJ14 0.6
GJ23 0.6
D301 ERB44-06
D308 ERB44-06
D309 SHORT
C309 M
C320 50V100u
C314 10V100u
C352 50V1.0
C304 100V M0.047
C366 100V0.15u
C305 50V1.0
C306 25V3300u
R303 1/2W1.0
R312 15k
R309 150k
R321 1k
R306 33k
R307 680k
R317 4.7k
R313 39
R336 2R270
R335 2R2
R338 OPEN
R339 SHORT
R334 1/6P82k
R350 62k
R474 180k
R473 1/6P4.7k
R462 1/6P560
R464 1/6P1k
R463 1R 4.7
R468 1/6P8.8k
R466 10k
R460 1W
R461 39k
C466 0.1/50V
C477 50V 0.1uF
C478
KEY3U
GJ46 0.6
GJ47 0.6
GJ48 0.6
GJ49 0.6
GJ51 0.6
GJ50 0.6
GJ37 SHORT
GJ21 SHORT
TAB 0.6
D467 EU2A
C464 100V 10uF
D468 MTZJ12B
R409 1/2 33KL
D353 1SS133/1SS120-7
R353 820
C353 2.2k
C301 82
C311 OPEN
C312 50V0.047u
C301 LA7846N
Q301A
Q301B
SHORT
OPEN
ENVOUT
ENV2
LATCH
THERMAL PROTECTION
AMP
PWM UP
TAB 0.6



G

H

I

J

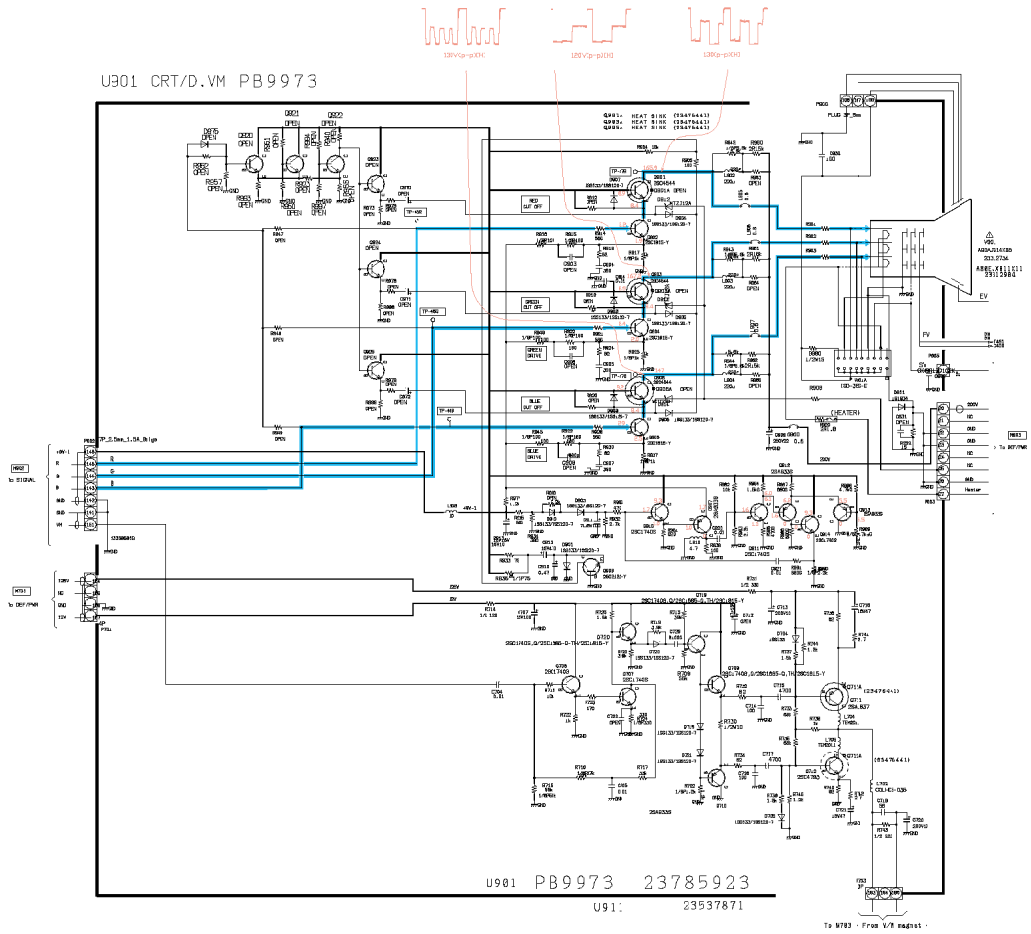
K

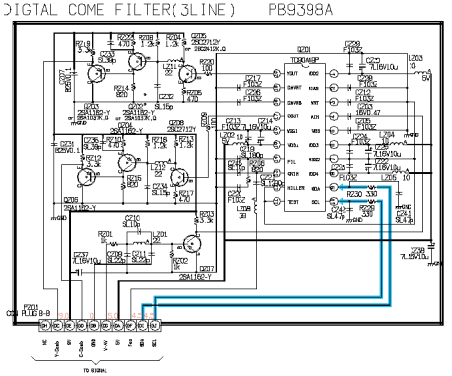
L

POWER . DEF

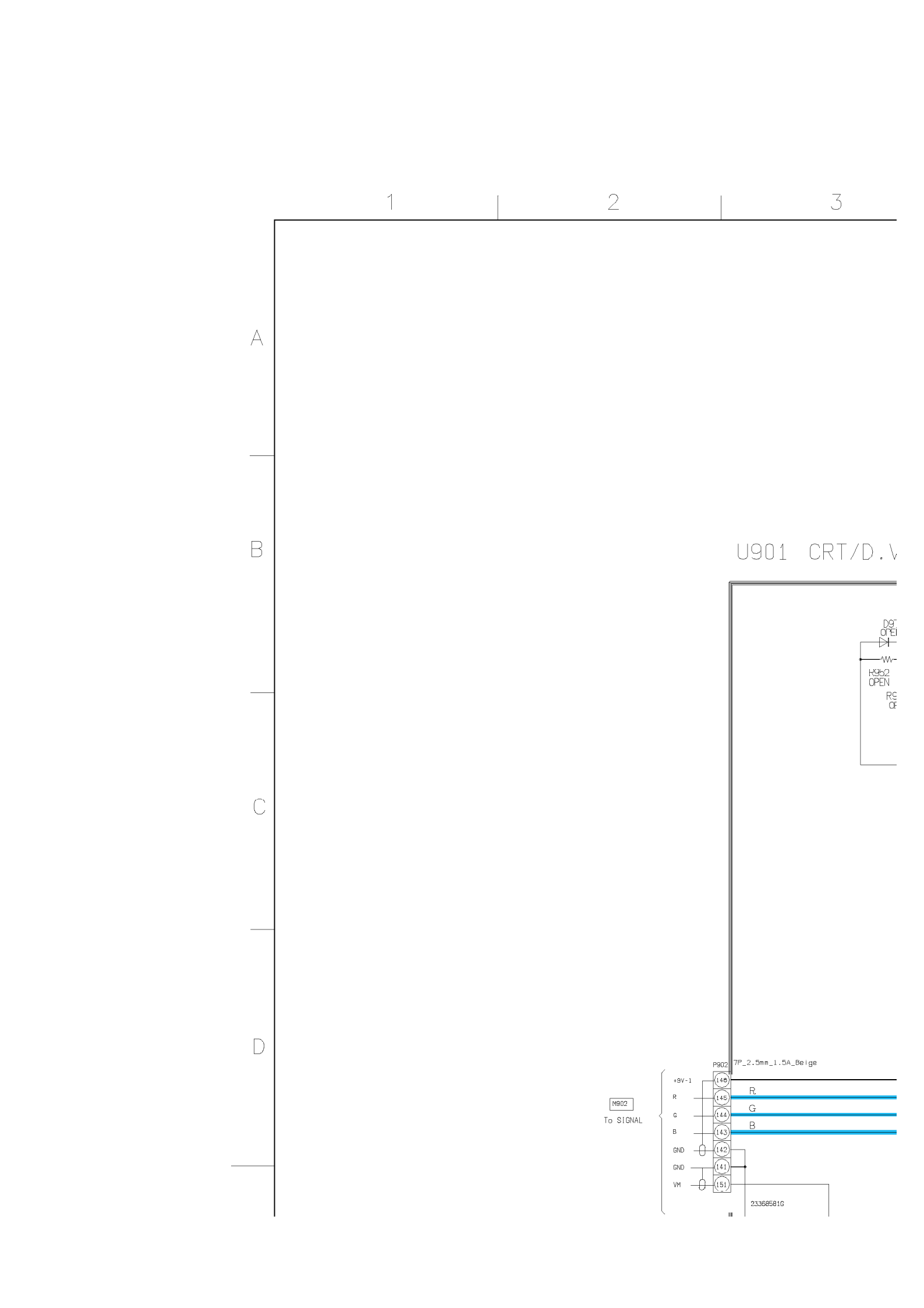
36AF61

13 | 14 | 15 | 16



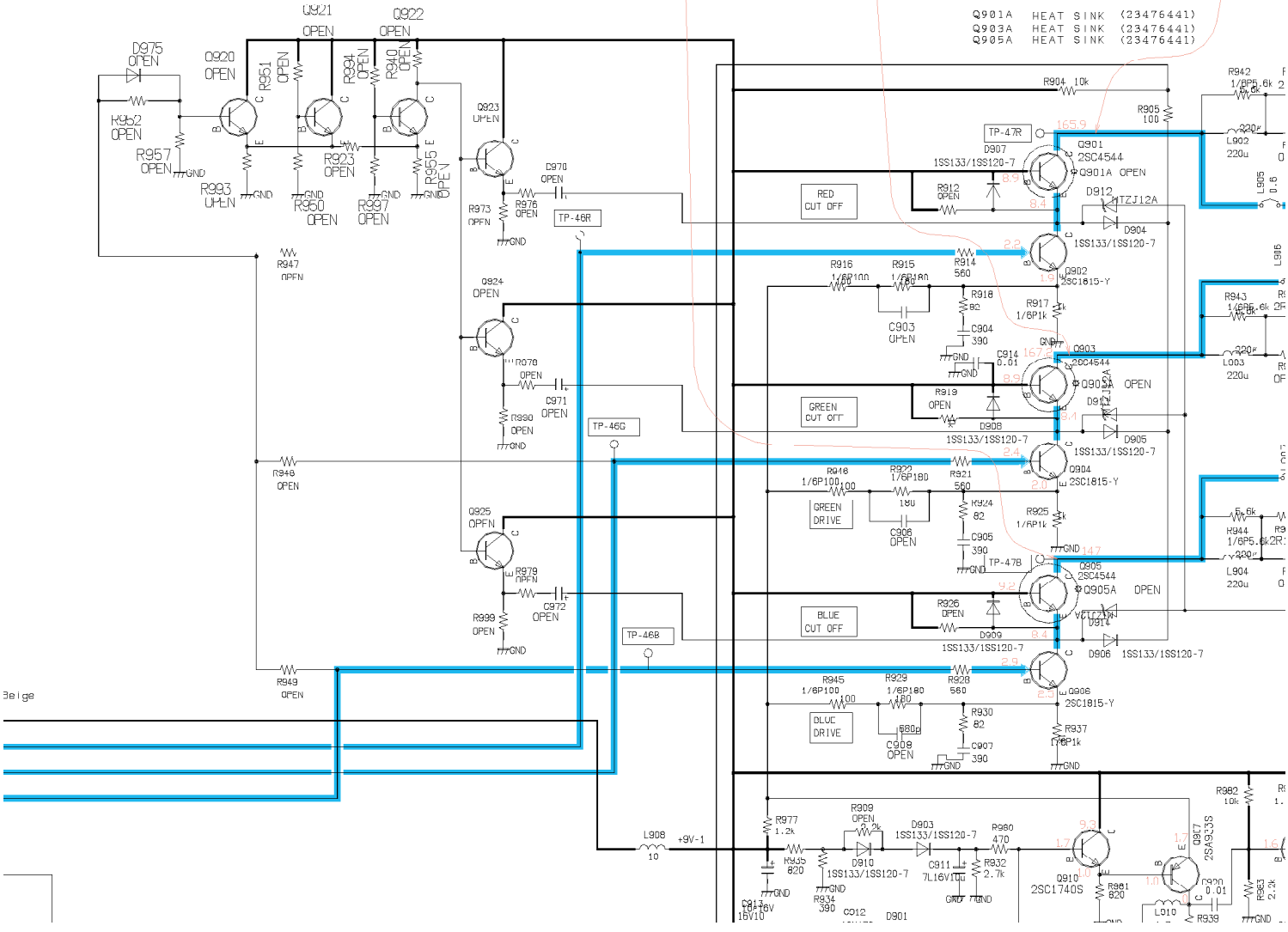


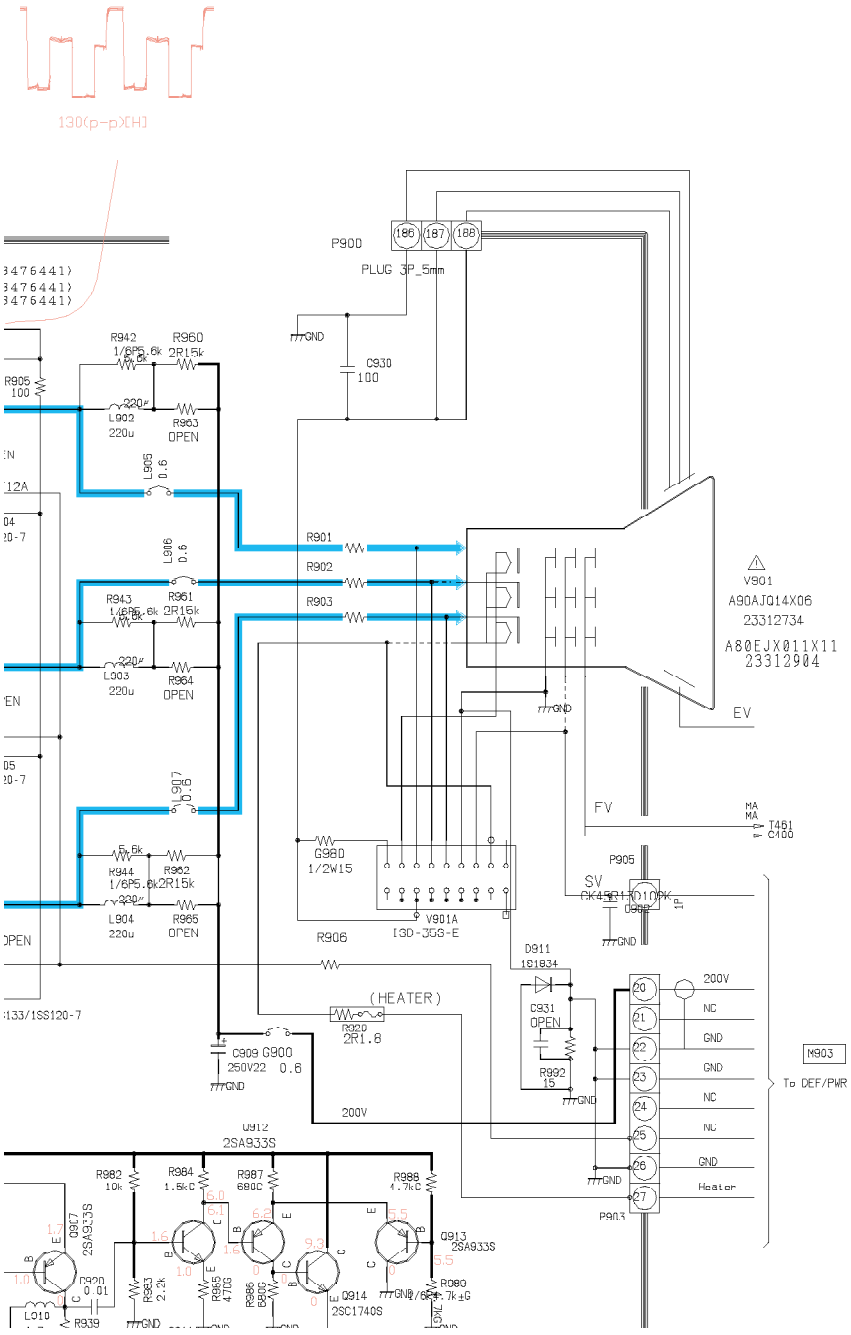
3L DIGI-COMB
CRT-D VM
36AF61

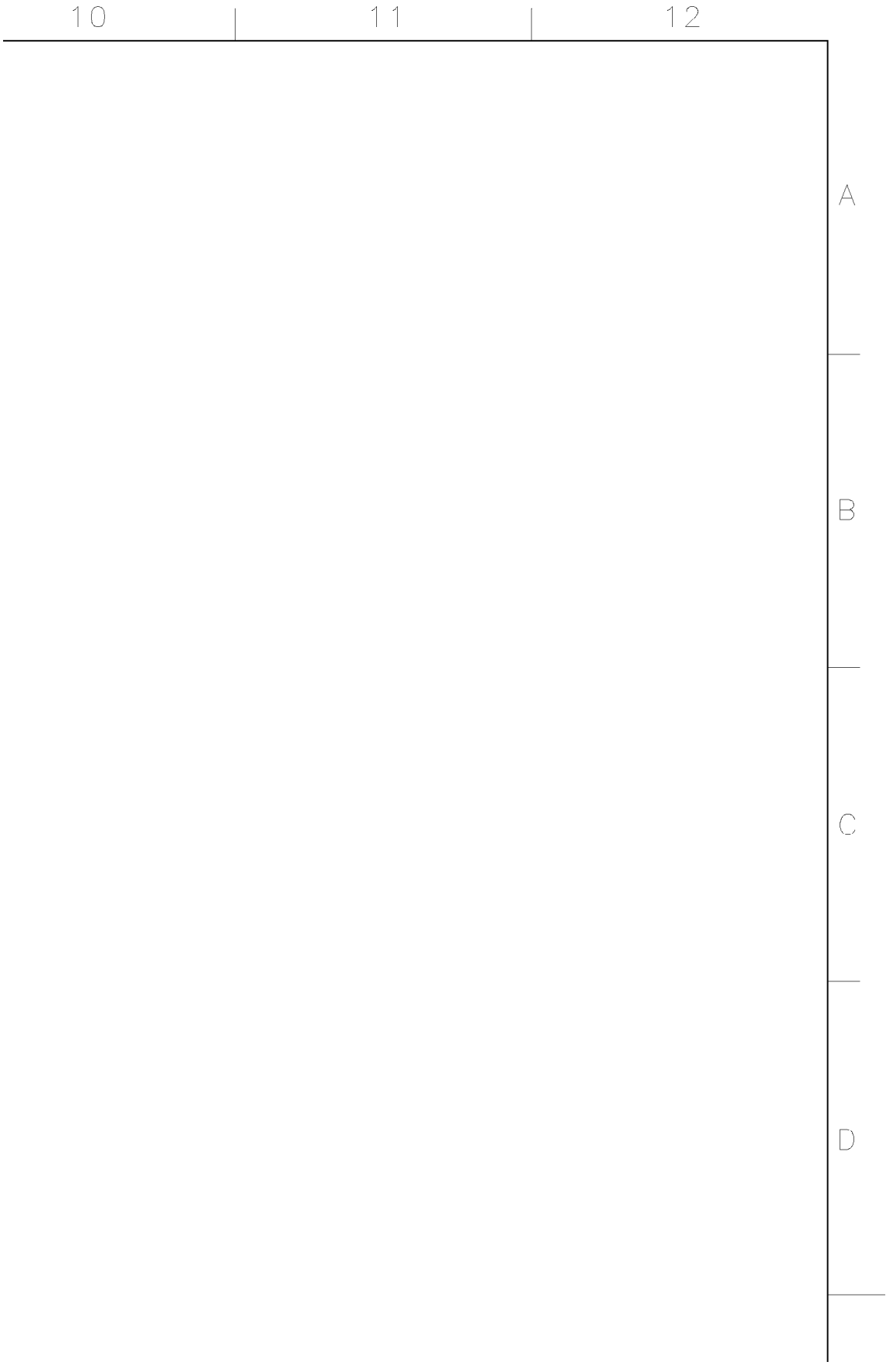

1
2
3
A
B
C
D
U901 CRT/D.V
R962
OPEN
P902
7P_2.5mm_1.5A_Beige
+9V-1
R
G
B
GND
GND
VM
146
145
144
143
142
141
151
M902
To SIGNAL
23368581G

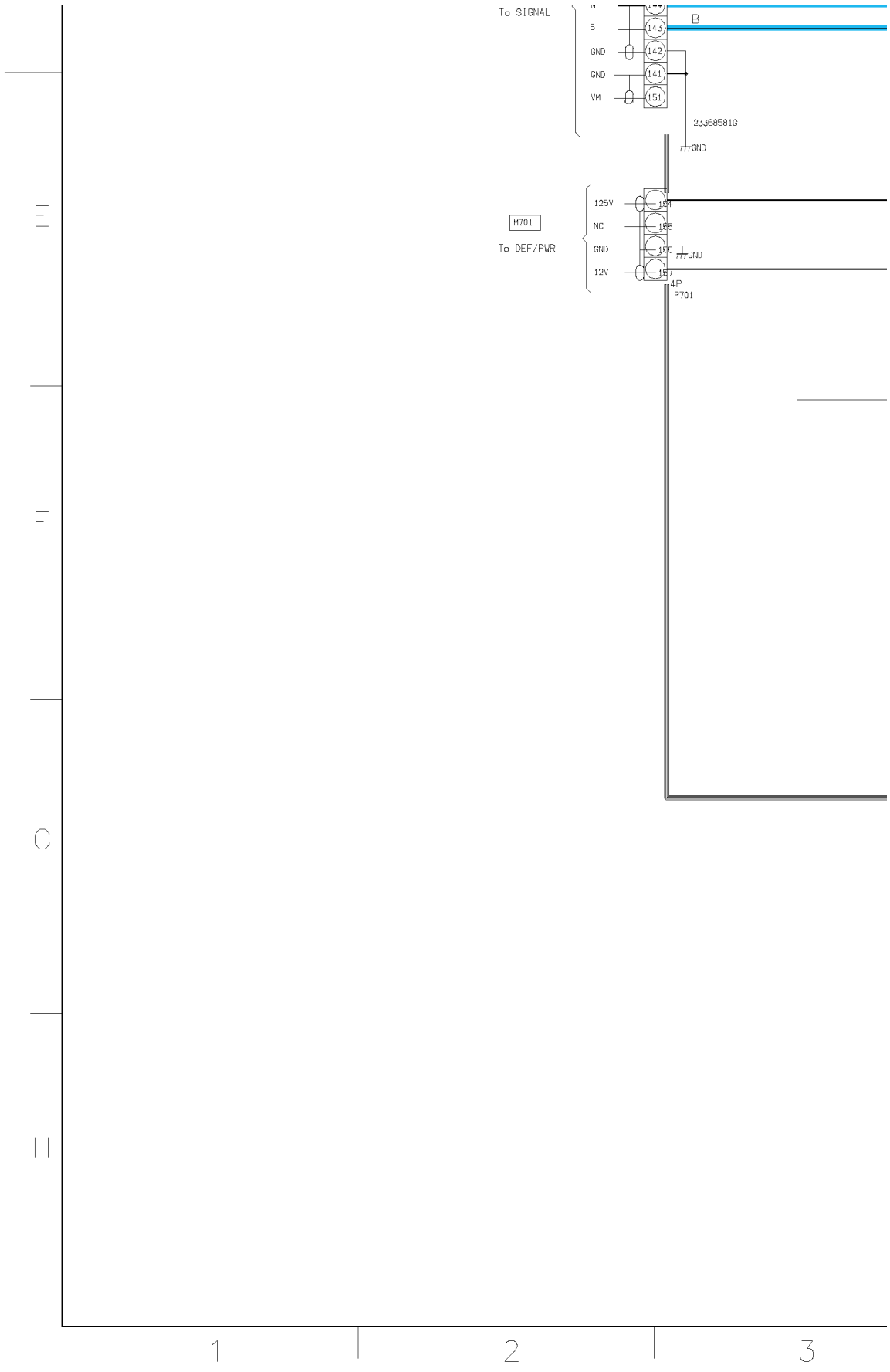
130V(p-p)[H] 120V(p-p)[H] 130(p-p)[H]

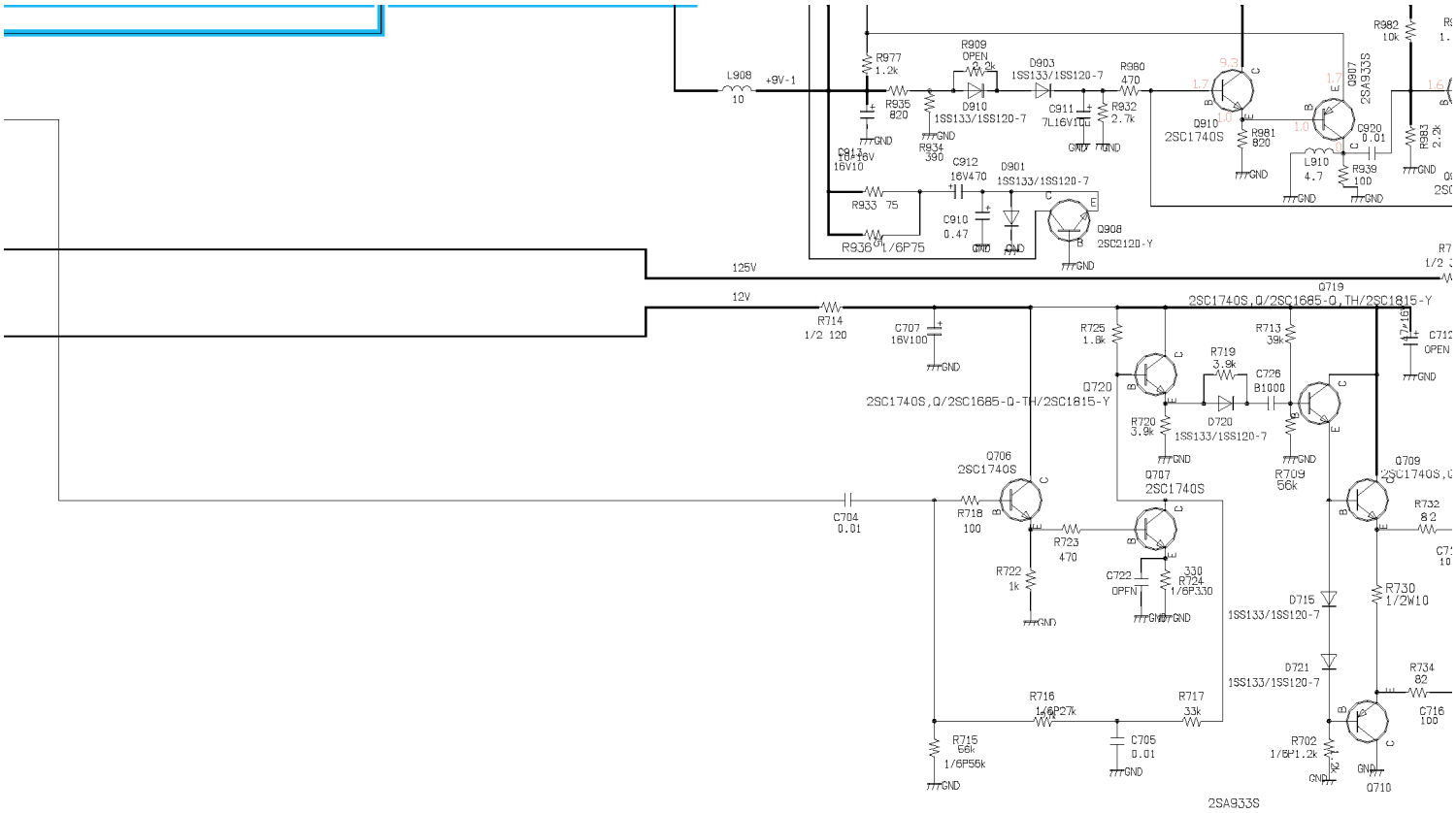
CRT/D.VM PB9973




130(p-p)[H]
P900
PLUG 3P_5mm
186
187
188
GND
C930
100
R942
1/6P5.6k
R960
2R15k
R905
100
L902
220u
R963
OPEN
L905
0.6
L906
0.6
R901
R902
R903
V901
A90AJQ14X06
23312734
A80EJX011X11
23312904
EV
FV
MA
MA
T451
C400
R943
1/6P5.6k
R961
2R15k
L903
220u
R964
OPEN
L907
0.6
R944
1/6P5.6k
R962
2R15k
L904
220u
R965
OPEN
G980
1/2W15
R906
V901A
13D-3GS-E
P905
SV
CK45E1H010K
C982
1P
GND
D911
1S1834
C931
OPEN
R992
15
(HEATER)
R920
2R1.8
C909 G900
250V22 0.6
200V
NC
GND
GND
NC
NC
GND
Heater
M903
To DEF/PWR
Q912
2SA933S
R982
10k
R984
1.5kC
R987
680C
R988
4.7kC
Q913
2SA933S
Q914
2SC1740S
R989
4.7k±G
R983
2.2k
R985
470G
R986
680C
R939
C920
0.01
L010
D907
2SA933S
1S1133/1SS120-7

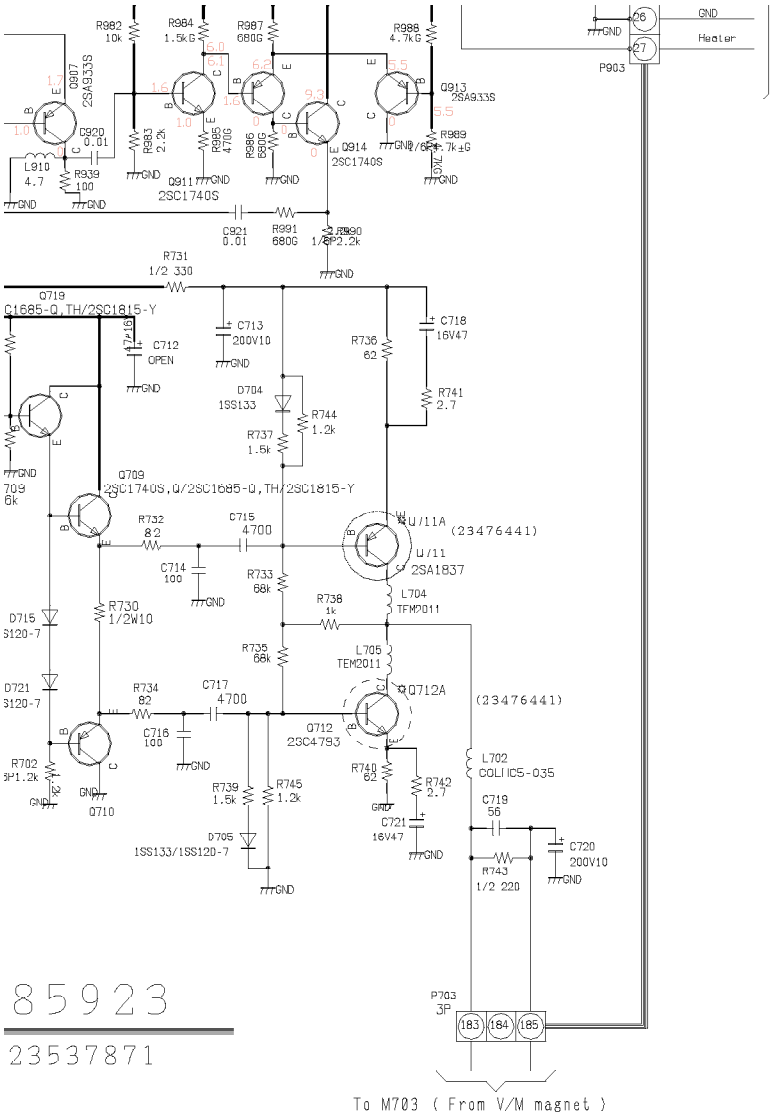

10
11
12
A
B
C
D


To SIGNAL
B
GND
GND
VM
143
142
141
151
B
2336858IG
GND
M701
To DEF/PWR
125V
NC
GND
12V
124
125
126
127
GND
4P
P701
E
F
G
H
1
2
3



U901 PB9973 23785923

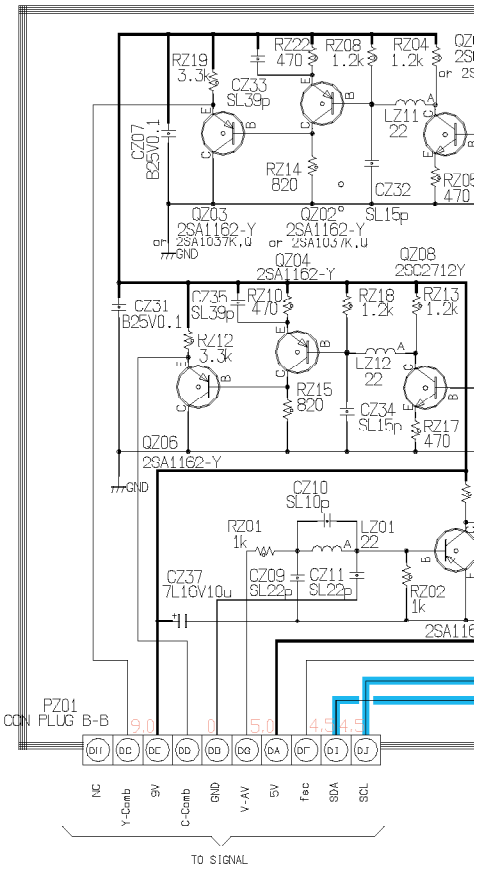
U911 23537871



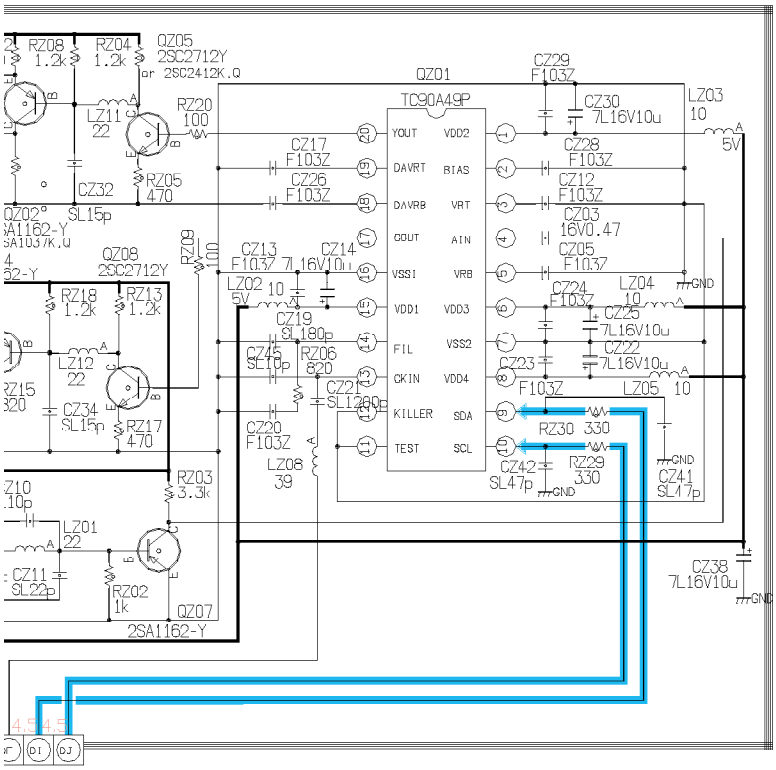
85923

23537871

DIGTAL COME FILTER(3L



[LTER(3LINE) PB9398A



3L DIGI-COMB
CRT-D VM
36AF61

E F G H

10 11 12